

*The fundamental purpose of labor legislation is the conservation
of the human resources of the nation.*

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Memorial on Occupational Diseases

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PART I.

PRACTICAL METHODS IN LABOR LEGISLATION

By

HENRY W. FARNAM

Two years ago our presidential address emphasized the importance of discrimination in labor legislation; last year, it treated of the relation of labor legislation to economic progress. It seemed wise to speak of the fundamental principles of labor legislation during the years that were devoted mainly to preparatory work.

Since the meeting of 1908, however, many things have happened. We have secured an able and well-equipped secretary who devotes all of his time to the service of the association. We have an assistant secretary, no less zealous and efficient. We have moved our headquarters into offices of our own in New York City. Our membership has increased to about 2,000, while many more thousands get the benefit of our work indirectly through the trade unions, manufacturers' associations, and other organizations which contribute towards the support of the association. We have issued many valuable publications. Our information bureau is used continually by State Commissions, chambers of commerce, librarians, legislators and by the State and national governments. We have established closer relations with our fellow workers across the sea, and for the first time in our history, the association has been represented at the biennial meeting of the International Association by its president and secretary, while the United States Government sent to the same meeting its Commissioner of Labor. The Supreme Court of

Illinois has upheld as constitutional, in the face of the decision of 1895, the Ten Hour Law for Women, and the president of the Illinois section, Professor Freund, has co-operated with other organizations in helping to bring about this result. We have secured the introduction of a bill into Congress, designed to prohibit the use of poisonous phosphorus in the manufacture of matches, while the New York section has done effective work in securing the passage of what is practically the first general law for workmen's compensation enacted in the United States, the president and secretary of the New York section being themselves members of the Commission which framed that act. In other words, we are passing from the stage of preparation to the stage of active work, and the topic that naturally suggests itself for this address is *Practical Methods in Labor Legislation*.

Blackstone says that three things are requisite to government; wisdom, goodness, and power, and of these three he thinks that the democracies are more likely to have goodness than either of the other qualities, while in aristocracies, more wisdom is to be found. A cynic might prefer to express the same idea in a negative manner, and to say that democracies have even less wisdom than they have goodness, and aristocracies, even less goodness than wisdom. Blackstone certainly does not entertain a very high opinion of the British Parliament of his day. "It is perfectly amazing", he says, "that there should be no other state of life, no other occupation, art, or science, in which some method of instruction is not looked upon as requisite, except only the science of legislation, the noblest and most difficult of any." Blackstone wrote nearly 140 years ago, but can we truthfully say that we of the United States have progressed far beyond the state of things then described by him? How many of our state or even national legislators have had any special training in the art of law-making? Even when they are lawyers by profession, they have, at best, been trained in what the law is, not in what it ought to be, and the science of

legislation is still conspicuous by its absence from the curricula of our law schools. Nor do we give our legislators as a whole the benefit of such rude apprenticeship as they may gain in our State capitols. A large fraction of those who have had such experience are annually or biennially retired to private life in order to make room for others. This is true even in the state which is known as the "state of steady habits." In the Assembly of 1909, e. g., only 28% of the members of both houses had had any previous legislative experience whatever. Nearly a third of them were farmers. Now farmers are as a rule estimable men, individually, but they do not often, in the State of Connecticut, find enough leisure in the intervals of coaxing a scanty living from our stony soil to devote themselves profoundly to the study of jurisprudence. The judiciary committee is, it is true, always composed of lawyers; but it is rather rare in other departments of law-making to find such impartial specialization as was applied a few years ago to the make-up of the Committee on Public Health, when two physicians were reënforced as experts by two undertakers and a grocer!

Thus our State legislation which is prodigious in its mass, amounting easily in a single year to 16,000 enactments, is mainly the product of unskilled labor. Hence when it is submitted to the trained minds of our courts, it is not surprising that a great deal of it is condemned. The result is that, while our business men, our scientists, our professional men, our inventors, our philanthropists, are eagerly pressing forward to conquer new fields, a large part of the labor of our jurists seems to be employed in putting on the brakes. Do not interpret this remark as implying any disrespect for the mechanical virtues of the brake. We need it in all walks of life. We need it commercially and socially as well as mechanically. But if you apply the brakes to a part of the train only, while the locomotive is under full steam, something is sure to be dislocated.

This is precisely what happens when new processes, new methods, new forms of organization are introduced

into our economic life, and the legal machinery for handling them is blocked in its development by the tardiness or weakness or carelessness of legislation. This is what happens when we try by all means to stimulate our industries, but fail properly to protect children and women from the effects of long hours, or, having passed a law, nullify it as contrary to the Constitution. This is the case, when we increase the hazards of travel and of manufacture by increasing the speed, or of coal mining by working lower levels, and yet fail to require adequate safety appliances, or refuse to give to the individual who may be injured as the result of these processes, any indemnity, unless he is able to prove, by an expensive law suit, not only that someone was to blame, but that that person was not a fellow servant of his, and that he himself was not guilty of contributory negligence. Yet the principle of averaging the property losses of a dangerous occupation such as navigation is as old as the *Lex Rhodia de Jactu*. If it is in the interest of commerce to apportion among the shippers the loss which arises when a part of the cargo is jettisoned to save the ship, is it not equally in the interest of society to distribute the loss, when a human being is jettisoned in the dangerous processes of modern industry?

The wastefulness and inequity of our present system is at last coming to be recognized, and yet, as soon as we speak of substituting a better one, or introducing anything like compulsory insurance or workmen's compensation, we are at once met with the bugaboo of unconstitutionality, and one of the first problems of the various commissions now studying this subject is to steer clear of this ever present danger to legislation. There is no room in an annual address for the discussion of the principles of constitutional law. They have been from the beginning of our history the perennial subject of debate between political parties, and it is more than probable that all of the members of this association would not agree in their solution of all of the questions that may arise in this connection. There are, however, a

few general principles of interpretation that should be emphasized. One is that a power which Congress may exercise for the benefit of property, can not consistently be denied to it, when it attempts to exercise it for the benefit of persons. Thus, if we ask Congress to impose a prohibitory tax on poisonous matches in order to protect the health of the workers, we cannot be charged with misusing the taxing power of the government, as long as Congress can impose customs duties in order to benefit owners of mines and manufactories, and can tax State bank notes in order to give a bank note monopoly to the national banks. We should also not forget that all of our constitutions, both federal and State, make provisions for their own amendment, their framers thus recognizing that a change of circumstances might require a change in the powers and duties of government. We of the present generation are not honoring the founders, but rather displaying our own narrow mindedness, if we refuse in the name of constitutionalism to make use of the power of amendment which they deliberately conferred upon us. Let us not forget that the law is made for man and not man for the law.

It is true that every law which affects economic and social conditions, is like a piece of social surgery. It may cut deeply into the very arteries of industry; it may sever the nerves of trade and of enterprise. The recognition of this fact is often used as an argument in favor of *laissez faire*. Rather than run the risk of doing harm, it is better, we are told, not to do anything at all. This maxim is a wise one in a certain stage of development. It was perhaps wise in surgery before the discovery of the circulation of the blood, and of anaesthetics. But increased knowledge has made surgery bold. It is bold because it is instructed. It is precisely because the modern surgeon not only realizes the delicacy of the human body, but also understands the working of its different parts, that he can perform with certainty operations which a few years ago would have resulted in the death of the patient.

Legislation is just beginning to pass out of the primitive stage in which surgery found itself a century ago, and it is the purpose of such organizations as ours to try to point out the method by which its work may become more effective and less dangerous. While much that I say has a general bearing upon all legislation, I shall, of course, speak specifically of what seem to me some of the requisites of labor legislation.

The first thing to emphasize is that every law should be preceded by a careful investigation of the facts, economic, industrial, and medical. Put in this way, the statement may seem a truism, but it is a rule that is often disregarded. It is, moreover, a rule which it is not easy to carry out in our country. In certain lines our statistics are full and trustworthy, especially the general statistics of population, collected for the decennial census; but our vital and accident statistics are very imperfect. It is clear that a legislature must work in the dark when providing against accidents and disease, unless it knows how prevalent they are. Hence our association is working for the reporting of industrial diseases by physicians, and for fuller records of industrial accidents. It has also appointed a committee which is urging upon Congress the importance of a national investigation of industrial diseases. In this whole matter it is clear that we must work for coöperation between the sciences, especially between medicine and hygiene, on the one hand, and economics, sociology and statistics, on the other. Medical science has made marvellous progress of late years in its own field, but it is only just beginning to realize the social side of its work. The development of a social service department in the Massachusetts General Hospital and the formation of a society for the study of medical sociology in New York, are the encouraging beginnings of what we may hope will prove a beneficent and fruitful partnership between the sciences. The best efforts of this association are devoted to such a partnership, and upon it must rest the value of much of

our labor legislation in the future. In this field Italy has set us a splendid example in the foundation of the Hospital for Industrial Diseases in Milan. This institution not only contains the facilities for treating such diseases, but also laboratories in which they can be studied, and measures devised for preventing and curing them.

Besides the vital and demographic facts already mentioned, we need also to know to what extent the purpose in view may already have been attained in whole or in part by existing agencies. We may well learn from the example of Switzerland, which, before undertaking to introduce sick insurance, made an investigation of the work of the benefit societies. This careful statistical study showed that these societies had increased rapidly in the course of 23 years. In 1880 they insured 7% of the entire population, in 1903, 15 %. This is clearly a fact of the first importance and it has determined the entire plan of sick insurance in Switzerland, which, instead of creating new organs, has simply utilized those already existing. We are informed that in the United States some 8,000,000 adult men and women are at the present day insured in fraternal orders in addition to 3,000,000 insured by other forms of benefit societies, such as railroad relief funds, trade unions, etc. If we assume with Dr. Brodsky, that each of these persons represents three others, we have 33,000,000 of inhabitants, or a third of our entire population, benefitted by these voluntary associations.

Almost equally important is the study of pre-existing law, and above all of the legislative experience both of our own country and of others. Much unnecessary legislation is enacted annually for lack of this care. Prof. Stimson quotes as an extreme instance of it, the act passed by the Legislature of Massachusetts, some years ago, which virtually declared that the common law was the common law!*

It should be our purpose to enact no unnecessary law. But if we find that, after full consideration, there is an evil

* Popular Law Making, pp. 188 and 357.

for which the existing laws do not supply a remedy, it is still important to find out what remedies have been applied by other countries, and what light is thrown by experience upon the operation of the proposed legislation. One cannot avoid the feeling that when the British Parliament passed the present Old Age Pension Act they did not take the trouble to study the German system of Old Age Insurance, based upon the principle of contributions by the beneficiaries. It would also seem as if they had forgotten their own unhappy experience with the lavish system of poor relief which was practiced only a century ago, and which proved to be not only costly to the taxpayer, but most demoralizing to those who were intended to be benefitted by it.

It would seem superfluous to mention the importance of careful drafting were it not so often disregarded in practice. Anybody who expresses himself as opposed to stealing is liable in these days to be charged with lack of originality, and to be reminded that he is simply plagiarizing one of the Ten Commandments. Likewise a person who maintains that a law should state the intention of the legislator, and that it should be so clear that it not only can be understood but that it cannot be misunderstood, is liable to be reminded that very much the same thing was said by Quintilian nearly 2,000 years ago. But as long as people persist in violating these fundamental rules, not merely of law but of language, so long will it be necessary to lay stress upon them. Thus not long ago in one of the New England States, a legislator undertook to change the dates of the appointment to office of the members of a certain city commission. When the legislature had adjourned and the amendment was printed, it was discovered that, while the law distinctly stated that there should be three Commissioners, the dates were so fixed that the law could not be complied with without the appointment of four. A western state which has in general a well deserved reputation for care in drafting, passed a tenement house act some years ago which the Supreme Court of the State declared im-

possible of execution. The principal reason was that it was made so general as to require in country districts certain appliances which could be found only in cities. So flagrant are the violations of this fundamental rule of writing that some public spirited citizens have recently organized a society whose sole purpose is to attend to the careful drafting of laws, and our association gladly acknowledges the coöperation which it has already received from these gentlemen.

It goes without saying that the best law is futile without some provision for its execution. Labor laws are seldom self-executory. Factory acts involve more or less inspection of establishments which the owners and managers do not always welcome. The factory inspector must possess not only honesty but also technical knowledge, firmness, and tact. Yet it is notorious that in a large number, probably the majority, of our states, these important officers are appointed not on account of their qualifications for the duties of their office, but because they have earned the gratitude of the appointing power by political services. Such men can hardly be expected to jeopardize their reappointment by an unpopular severity in the enforcement of the law. Our association has published a special study of the administration of labor laws from which it appears that only three of all our states require a civil service examination for factory inspectors. A few require the appointment of "a suitable person" or "a competent and practical mechanic." Most of them place no limitations whatever upon the appointment. The international association is making a similar study of the administration of labor laws throughout the world, and a comparison of the best administered state of Europe with our own is not flattering to our vanity. Prussia, *e. g.*, goes so far as to require of its factory inspectors, three years' technical study in such subjects as chemistry and mechanics, and in addition, one and one-half years' study of economics and public law. They must also pass two examinations in a

German university. Such extreme requirements would be plainly impossible in our country and perhaps undesirable, but they at least show how seriously the Prussian legislators take their labor laws.

A final requirement, which I should like to emphasize, is seldom recognized, and yet, it is, in my judgment, of great importance. Every labor law should provide for a record of its own operations. No hospital would be considered worthy of support, if it did not keep a careful record of cases, yet our legislators are willing to project into the economic life of society a great power, namely, the power of coercing individuals, without even taking the trouble to find out how this power is operating.

A few years ago one of our graduate students was working up under my direction a study of the factory laws of one of our states, and all of the printed statistics were in such an unsatisfactory shape that he was actually obliged to organize a small statistical bureau in order to make the calculations needed for a comparison of the figures from year to year.

I have intentionally omitted all reference here to one topic which may seem to many the most important of all. I refer to the methods by which, when a bill is prepared, the favorable votes of the legislators may be obtained. It is clear that laws which are still-born are no laws at all, but the art of legislative midwifery is precisely that part of the art of legislation which has enjoyed a really professional development in our country. Legislators come and legislators go, but the lobby seems to be the one stable element in our legislative halls. Such an association as ours does not expect, nor does it desire, to add to the world's knowledge of this subject, though its members may need to be reminded, and reminded emphatically, that since this art has been developed in the service of private interests, those who aim at the public interest are under a peculiar obligation to study and apply its legitimate features.

The International Association for Labor Legislation ex-

emphases in its business methods the application of these practical principles. At the meeting recently held in Lugano, the delegates divided themselves at once into five commissions. Each of these commissions had a certain set of topics to discuss. The work had been prepared beforehand. One of the important subjects was that of industrial poisons such as lead, mercury, etc. The association had secured the preparation of an elaborate list of industrial poisons together with statements regarding the symptoms produced by them and the methods of treatment. This list, prepared by Prof. Sommerfeld of Berlin, had been subjected to a careful revision by Dr. Fischer. Similar studies had been made with regard to other topics such as the hours of work in continuous industries, etc. A study of the enforcement of labor laws in the leading countries of the world has been begun and published in part. In order to secure a much needed uniformity, one commission worked out a definition of the term 8-hour shift as applied to coal mining. The Bulletin issued periodically by the association gives a survey of the labor legislation of the world.

It is by such careful preparation that the work of the international association is made effective, and it is by the same kind of work that the American Association must justify its existence. In other words, we try to apply to legislation the same study of causes, of processes, and of effects, that lies at the basis of our modern science. We aim to utilize in our law making the best results of the work done in medicine, hygiene, economics, sociology, and jurisprudence. We offer no single, simple remedy for our social ills. Social panaceas we put in the same class with the philosopher's stone and the dreams of the alchemist. Avoiding indifference on the one hand and sensationalism on the other, we aim to secure practical results by scientific methods.

LEAD POISONING IN ILLINOIS

By

ALICE HAMILTON

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The investigation into the lead trades in Illinois made by the Commission on Occupational Diseases has covered 28 trades in which lead-poisoning may occur. Cases of lead-poisoning have been found in all these trades; 578 individual cases have been discovered from the records of physicians during the past three years, and information has been gathered, from foremen in the establishments visited and from physicians, which points to a much larger figure than that. Six factories alone are said to yield yearly no less than 380 cases. These figures probably come much nearer the truth than our list of individual cases. There is necessarily only a small fraction of the victims of lead-poisoning whose names and addresses can be procured, for the majority of physicians keep no record of their cases; some do not even attempt to keep the names if these are foreign and hard to catch.

The number of cases in the year 1910 is very much larger than the number for the two preceding years, but this is not to be interpreted as an increase of lead-poisoning during 1910. It is explained by the fact that the recent cases were much easier to discover than former cases. Men presented themselves for examination who were at the time suffering from lead-poisoning, and in the investigation of shops such cases could also be detected; but a past history of lead-poisoning was much harder to obtain. Many men who become leaded, especially if they are unskilled workmen, give up the trade at once, following a doctor's advice, and these cases are seldom heard from afterwards. There are very few women on our list, only 18 out of the total of 578, and

the fact that the lead trades in this state employ very small numbers of women is a great advantage, for women are notoriously more susceptible to this form of poisoning than men are.

It would be too long a list if I were to undertake to tell you all the trades in which we discovered that lead-poisoning might and does occur, but you may be interested in hearing of a few of the more unusual ones. We found individuals suffering from lead-poisoning which they had contracted in the following occupations:

Making wall-paper.

Rolling and unrolling wall-paper.

Finishing handles for coffins.

Polishing cut glass.

Repairing storage batteries.

Wrapping cigars in tinfoil.

Working in brass foundries.

Enameling bath-tubs.

Laying electric cables underground.

Two men poisoned themselves by holding lead-covered nails in their mouths while shingling roofs.

In looking over our records of cases certain industries stand out as specially dangerous, as productive of much lead-poisoning. These are the white lead industry, lead smelting and refining, the making of storage batteries, the making of dry colors and paints, and the painting trade. Out of 318 cases of lead-poisoning known to have occurred in 1910 all but 65 belonged to these five trades. We studied carefully the methods used in these industries and the conditions under which the work is done, and came to the conclusion that all must be considered inherently dangerous as carried on in this country, but that all could be made far safer than they are without any radical change in method. That is, there are processes in use in America which are in themselves dangerous and expose the workman to lead-poisoning, and these dangers could only be removed by a change of method.

But on the other hand there are quite unnecessary dangers, due not to the method used, but only to carelessness, to lack of thought. The lead smelting industry is a case in point. As carried on in America it is a far more dangerous trade than in Europe, and nothing but a change in method could make one of our plants as safe as a German lead smelting works. Unfortunately, however, the American lead smelter,—he is usually a newly arrived Slav, Greek or Italian—is not only exposed to risks which he would escape in Germany, but he is not nearly as well cared for as he would be there. Our methods compel a man to work in an atmosphere of lead dust and fumes which foreign methods have done away with, but while a foreign workman is cared for under a doctor's supervision, our workmen are often completely neglected.

We have evidence that there is much lead-poisoning among the lead smelters in Illinois. One hundred and eighty-one cases have been found to have occurred during the last three years, and from the statements of physicians, managers and foremen, it is evident that many cases of lead-poisoning remain undiscovered because the unskilled foreigners leave the work as soon as they begin to suffer from the effects of poisoning and are, consequently, never heard of. Eleven physicians have stated that they see a total of 270 cases a year among the workers in the three largest smelting plants. Some of these are undoubtedly duplicate cases, but on the other hand there are many other physicians who practice among these people who were not interviewed.

The six lead smelting works visited have a pay roll of about 1150 men, all but 145 of them being employed by the three largest plants. But according to the most conservative statements of their foremen there are at least 4,000 men employed yearly in these three works, because the working force changes continuously.

The making of storage batteries, as carried on in our state, is much more dangerous than the same trade in England. Illinois has no large storage battery works, but many

small places which either make or assemble or repair storage battery plates. This trade is everywhere recognized as dangerous, and it is not possible to make a storage battery factory entirely safe, although the evils could be greatly reduced by the adoption of methods which have been thoroughly tested elsewhere and found successful. None of the factories visited were found to be using all possible precautions to protect the men; some of them were very bad, especially smaller places doing repair work. Some of the most rapidly developing and severe cases of lead-poisoning on our lists have been contracted in making storage batteries, and what adds to the danger to the workman is that he is usually ignorant of the fact that he is handling poisonous lead compounds. One newly arrived Russian Jew was set to working with the red lead paste and used to moisten his fingers in his mouth as he worked, because he had never been told that the stuff was dangerous. He was seriously leaded at the end of ten days.

A striking contrast can be made between the trade here and in England. At the Hart Accumulator Works in London, employing over 100 men, not one case of lead-poisoning occurred last year. One small plant in Chicago, where old batteries are recharged and repaired, sent two cases to hospitals in nine months' time, although it employs only fifteen men.

The white lead industry in Illinois has improved more than any other lead trade during very recent times. Three of our four factories are new and very well constructed, and in all but one of the four there is a strong effort being made to do away with some of the more dangerous features, and to make the work as safe as possible under American conditions. The managers are also beginning to see the necessity of personal supervision of their men, and we bid fair to have soon in our Illinois plants a system very nearly approaching that which is in force now in England, only here it will have been voluntarily adopted by all but one factory.

That the methods used over here are far more dangerous than those used in Europe and England, and that our men have suffered from this lack of personal supervision, can be shown by statistics. The four factories together employ about 420 men. We have found 157 individual cases which developed in these places during the last three years. Sixteen physicians who were interviewed stated that a large proportion of all the men employed become leaded. Thirteen of them say that they see 187 cases a year. Undoubtedly some of the cases are duplicated, but undoubtedly, also, many leaded men visit physicians whom we did not interview.

Here are a few comparative figures:

Cookson's White Lead Works in Newcastle-on-Tyne, a model English factory, employs 182 men. Careful weekly medical inspection of all the men employed failed to show one case of lead poisoning last year.

Locke, Lancaster's White Lead Works in London employs 92 men. They did not have a case of lead poisoning for five successive years.

A model Illinois factory employs throughout the year about 200 men. Medical examination of the men who complained, or seemed ill, revealed twenty-five cases of poisoning last year.

In an Illinois factory with a slightly larger pay-roll, twenty-eight per cent of all the employees have been leaded.

Some of our paint and dry color houses, where dry lead salts are produced and handled, have an inexcusably large amount of lead-poisoning. That this is not due to peculiarities in our method, but solely to neglect, is shown by the contrast between two Illinois paint houses. These two factories are both new, well ventilated, admirable externally. They employ about an equal number of men. We have not, during the nine months of our enquiry, traced a single case of lead-poisoning to one of these; we have found eleven cases which belong to the other. This is an illustration of the results of leaving all such matters to the good will of the employer, for I can find no other cause for this difference except the care given the men in one place, and the neglect in the other.

The painting trade is another in which the American

methods are far more dangerous than those in use in England, France, Germany and the Low Countries. Numerically, it is our most important lead trade. There are 20,000 union painters in Illinois, and the union officials estimate about half as many non-union men. Thirty per cent of all our individual cases for 1910 are painters, but as most of these come from the union books, we feel sure they represent a small fraction of the real number. The most poisonous part of the work is done largely by non-union painters, many of them unskilled and ignorant of the dangers of the work.

The painter acquires lead-poisoning, not through the skin, as is commonly believed, but through chewing lead-smeared tobacco, or eating lead-smeared food, or breathing dry lead dust. The first risk he can avoid by not using tobacco while at work and by careful washing before eating, provided there is a place where he can wash. House and sign painters often have the choice between a lunch eaten with paint-smeared hands and no lunch at all.

The second danger to which the painter is exposed is the dust-laden atmosphere caused by mixing dry white or yellow lead with paint or putty, and by sand-papering coats of lead paint after they are dried. This last is recognized by every skilled painter as the most poisonous work he can do, and one against the dangers of which he cannot protect himself. So that, although the painters themselves may be held responsible for the lead-poisoning which comes from handling food and tobacco with unwashed hands, they cannot be held responsible for the far larger number of cases which result from this dry rubbing down process, carried on as it usually is inside closed rooms with no system of ventilation to remove the dust. Very rapid and severe cases of lead-poisoning occur as a result of this work. In one railway shop three cases were recently found, all of them developing after only four weeks' exposure. One was a newly arrived Italian; he was not a painter by trade, and when he was put to sand-papering the ceilings of sleep-

ing cars, he had no idea of the dangers of the work. This sort of work, done in factories, employs large numbers of non-union painters.

It is often said that painters cannot be protected from lead-poisoning unless we abolish the use of white lead paint, as they are doing in France. At the International Congress in Brussels this year I heard that question discussed, and the English and German hygienists were against so radical a measure as that, holding rather that white lead paint should be used for exterior work, but forbidden in interior work where zinc white serves as well. Even with the use of white lead paint it is still possible to protect the painter better than we do now. In Germany the contractor is obliged to provide a warm room in which his painters may wash, change their clothes and eat lunch—this even if the work done is in the country or on the edge of the city. In Germany and Belgium no lead paint may be rubbed or sand-papered while dry; water must be used. In England this wet method is said to be universally employed even on the finest carriages and automobiles. I do not know why it is considered impossible in these industries in America.

Leaving the inherently dangerous lead trades, we find a number of trades which should not be productive of lead-poisoning, which might be practically safe, but which, in Illinois, do yield a certain number of victims. These are the trades, very important as far as numbers go, in which metallic lead is melted and cast, rolled, drawn out into tubes, cables, wires, etc. The printing trade is included here, the metal and junk shops, the plumbers' trade, the brass foundries where some lead is always used, the making of "novelties", of car-seals, coffin handles and ornaments, tin-foil—and a number of objects which have more or less metallic lead about them.

The dangers in this sort of work are easy to avoid, for they consist of fumes from the melting pot, which can be carried off by proper suction fans, and dust from old lead or dross, which can be eliminated by simple cleanliness. The

fifty-seven cases of lead-poisoning which we found in these trades were probably all entirely avoidable. The printing trade is a striking example of a lead trade which is notoriously unhealthful, and needlessly so. It is carried on usually under wretched sanitary conditions with insufficient provision for carrying off fumes, and accumulations of lead dust on floors, walls and machinery. The impression gained by our investigators was that the conditions in a printing establishment depend solely upon the will of the manager, for sometimes the best conditions were found in small inexpensive places, and some of the worst were in large newspaper houses.

It should be possible to make the printing trade as safe as most other indoor occupations, for it only requires provision for protecting the workingman against fumes and dust, and providing him with facilities for washing before he leaves work. As it is, the printers apparently suffer a good deal from chronic lead-poisoning. Only thirty-one cases of the acute form were found in 1910 in Chicago, but the death records of the union show that there is an abnormally high death rate from diseases which may come from the slow absorption of lead, such as apoplexy, heart disease and kidney disease.

We were pleasantly disappointed in our study of certain industries usually regarded as more or less dangerous lead trades, such as the plumbers' trade and the making of plumbers' supplies, rubber, glass, pottery, enamels, and kitchen utensils. In Illinois most of these industries are free or nearly free from lead. According to the most authoritative evidence we could obtain, lead is not used in this state in the making of glass, nor in most of the glazes for pottery, bricks and tiles, nor in the enamels for signs, nor in any enamel for kitchen utensils. Cheap kitchen tin-ware is said to consist of sheet iron or steel with an exceedingly thin coat of pure tin. Sulphate of lead is used for rubber, instead of white lead. The plumbers' trade is changing from a lead trade to an iron and brass trade. This is true

of the plumbers' trade everywhere, but the other industries mentioned are in some states very important lead trades, exposing many workmen to the dangers of lead poisoning.

It is gratifying to note that the evils in the lead trades tend to grow less instead of greater, because machinery is everywhere being introduced and displacing hand work. As the demand for lead increases there is more care taken against waste, which means that in well managed establishments the fumes from smelting and refining lead are collected, and the dust from grinding and sifting. All this tends to diminish the danger to the workmen. There is practically unanimous testimony from the employees in the lead trades as to this steady improvement in conditions.

Unfortunately, the advance in methods of work has not been paralleled by an improvement in the care of the men. This is very imperfect in all of the lead trades, and in some there are apparently no measures taken to protect the men against poisoning. It is in consequence, perhaps, of this very general indifference to the welfare of the employees that we find the dangerous lead trades in bad repute with the working class, and, as the employers themselves declare, only the most ignorant and helpless foreigners seek employment in white lead or lead smelting works. There are exceptions in the case of well paid, skilled departments, but for the most part the lead workers are poorly paid, non-English-speaking foreigners or negroes who tend to drift in and out of these establishments. We found one place where fifty men are employed yearly though the number needed is only thirteen. Another place must employ 300 men a year in order to keep a force of fifty. Still another, with a pay-roll of 450 to 600, loses from 20 to 40 per cent of its working force every pay day. As it is only with a steady force of workmen that any real shop discipline can be maintained, and men trained to protect themselves against the dangers of the trade, it follows that this shifting of men from place to place is productive of much more poisoning than would occur among a permanent force

of men. There are indications that some of the larger establishments are beginning to recognize the economic waste of this form of labor, and several are planning reforms which will result in some protection for the men against lead-poisoning.

NEURASTHENIA AMONG GARMENT WORKERS

By

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University.

In attempting to present a medical problem to an audience presumably uninformed concerning the technical aspects of disease, the physician is confronted with at least two important difficulties. One of them has reference to the uncertainty of medical terminology; another has reference to the uncertainty in regard to the etiological significance of factors in the life and surroundings of an individual who later becomes the subject of disease. The latter difficulty has particular reference to the fact that the sort of disease which this paper attempts to treat is largely personal in its nature, development, and final outcome, and that the reaction of any individual to causes which work upon a large body of people cannot be accepted as carrying with it any large aspect of the total truth.

With limitations implied in the foregoing, the reader will attempt to present to you as simply as possible certain deductions in respect to the prevalence of neurasthenia among the garment workers of this city. No attempt at present will be made to use detailed statistical proof; nor will the analysis of the whole material be given; but general conclusions derived from a study of 7,000 workers in garment trades studied in the last ten years at the Jewish Dispensary in this city will be placed before you for consideration. This dispensary has an annual attendance of about 25,000 sick of whom from five to ten per cent come in one way or another to the nervous department. Of these, about forty per cent of the males are garment workers, and about three to four per cent of the women. This percentage of women would be much larger but for the reason that all married women have been excluded from this

study on account of the additional tendency towards the development of neurasthenia which married life, numerous children, added responsibility, bad surroundings, and other factors of this sort, carry with them.

The nationality of this class is almost wholly Russian Jewish. About 92 per cent belong to the Russian or Polish Jews, with a scattering of the various countries of South-eastern Europe—Bulgarians, Lithuanians, Gallicians, etc. To sum up then, this is a study of 7,000 nervously sick individuals whose chief employment is in the garment trades, mostly as factory hands in the clothing, cloak and skirt making industries. On account of the lack of statistical analysis for which further study is essential, this paper cannot be looked upon as a contribution to industrial disease, but merely as a preliminary survey of the field.

Neurasthenia is a term devised many years ago by Beard, an American physician, to describe a condition of the nervous system which appeared to him to be peculiar to Americans.

Nerve weakness is what he implied by its use; its causes, according to him, lay in habits and surroundings which, owing to his insular views, were typical of the American civilization in which he lived. Overwork, alcoholism, worry, intense application, overeating, etc., were the important factors in causing this disease.

The term neurasthenia, like many others that have come to be a permanent part of our vocabulary, was too convenient to be dropped after it was found that other countries and other civilizations had the same kind of clinical entity without just the same kind of productive factors at work.

With the tremendous development of our knowledge and interest in the functional diseases of the nervous system, the clinical picture to which neurasthenia has been applied became much narrowed, and it is now a fairly well understood and rather sharply limited disease, at least among neurologists. Neurasthenia is first of all a functional disease, that is, it is not dependent upon anatomical changes

of an abnormal sort in the nervous system. It is therefore not organic. It manifests itself by two groups of symptoms, one of which has reference to conditions of abnormal fatigue, the other to conditions of abnormal irritability. Clinically expressed, an individual to whose symptoms the term neurasthenia may be applied is one who becomes easily and quickly fatigued following, what is to him, a minimal amount of exertion, and whose nervous system shows abnormally rapid and intense reactions, out of proportion altogether to the exciting stimuli.

It will be seen from this that for such a diagnosis there are at least two groups of symptoms which must be considered, one having a purely physical expression, such as muscular fatigue, headache, indigestion, rapid heart, etc.; and the other a purely psychical expression, in which depression, hopelessness, intense introspection and exaggeration of symptoms form the background.

An interesting phase of the present inquiry might be illustrated by a comparative view of the frequency of neurasthenia in private practice, in an out-door clinic under my charge, and the Jewish Dispensary. In the private practice of neurology where the average physical surroundings are good, where various trades are represented, and in which factory workers are very much in minority, the diagnosis of neurasthenia is justified in only about five per cent of cases. In the Grand Avenue Dispensary, in which the patients are largely laborers, foundry workers, workers in the metal trades and various out of door businesses, neurasthenia is comparatively rare. In the Jewish Dispensary, on the other hand, where from 40 to 60 per cent are factory hands in the garment trades, it is the most common neurological diagnosis made. The total percentage of this diagnosis can easily reach from 25 to 30 per cent. Now this discrepancy is sufficiently startling to warrant an inquiry, directed towards the discovery of the factors which are found among garment workers particularly, to explain so marked a prevalence of neurasthenia in that occupation.

In order to take a fair view of the matter, and properly to guard the conclusions arrived at, we must consider in the first place something about the temperament and physical characteristics of the Russian Jew. He is, as a type, particularly liable to affections of the nervous system of the class to which neurasthenia belongs. Furthermore, it should be admitted that fundamentally he is not well adapted to factory work, is not a particularly good garment worker, outside of his industry, ambition, sobriety, etc., and the reason probably is, that the Russian Jew is primarily a trader and not a maker of things. The history of his activities in Russia or Poland throws a great deal of light on this subject, particularly in relation to his change in business activities upon arriving in this country; so we have at the very outset a condition of inability, and, in a sense, an actual monopoly of a class that is essentially not adapted to the work which is finally embraced by so many of them.

In considering the whole question of the factory methods in relation to this class of cases, care should be taken to keep in mind the unfortunate tendency which has drawn into a trade a body of individuals poorly adapted to that trade. When we come to sum up the etiological significance of factory work this part of the question must be carefully weighed.

In seeking for the causes for the prevalence of neurasthenia among garment workers, there should be sharply differentiated causes which are inherent in factory methods as such, and causes which have to do with the tendencies in the factory hands which have already been pointed out.

An inquiry into the etiological significance of the factors productive in so large a proportion of neurasthenics among garment workers should be regarded as strictly medical in character, and, as such, should be guarded by the usual limitations prevalent in reasoning of a clinical character. To the medical investigator the question of the right or wrong of factory methods has no place, nor should the many issues involved in the social or economic aspect of this large subject cloud the search for causes and their results.

As a general conclusion it must be admitted that a factory in which garments are made, even if the most ideal plans, as far as arrangement, ventilation, cleanliness, and so forth are carried out, is scarcely a place where ideal conditions of physical and mental health can either be preserved or developed.

How far this applies to other industries cannot be here stated, as investigations into this particular field have, as far as the writer is aware, not been made. There are, no doubt, other trades which are more destructive of the nervous health of workers than garment trades, and perhaps there is a larger incidence of neurasthenia among the workers of other industries. The conclusions arrived at are therefore limited in scope to the investigations in hand, and must not be regarded as applicable to any other kind of trade.

It has appeared to me that there are certain phases of factory methods found in the garment trades (but, let it be understood, not characteristic of it), which deserve emphasis as bearing upon the question, and which have a very positive influence on the production of neurasthenia.

Work in factories which produce garments is not continuous, but is planned to meet exigencies of fashion and season. This means that at stated periods of the year work must necessarily be rushed to completion. During such periods the worker is compelled to work overtime, and at the highest possible productive capacity. Such a period of intense exertion is followed by a great slackening of work, during which the factory force is cut down sometimes to a minimum proportion. The economic effects of being out of work, or working at what, from the individual worker's point of view, is an economic loss, invalidates whatever value there might come from the cessation or lessening of labor. This brings up naturally the insecure tenure of labor among this class of workers. The anxiety incident to loss of the accustomed wage, the doubt as to the permanence of position, the irregularity of work, all tend to

increase the load which the worker must carry. To the imaginative and highly introspective Russian Jewish temperament, all these things, and other things needless to mention, cause that state of mind, or, perhaps, foster that mental attitude, which we rather vaguely call worry.

Now worry may be defined as non-productive thinking, or pondering not governed by the usual laws of reasoning. It rapidly becomes a kind of temperamental background or atmosphere in which the individual's mental life works itself out. Worry has always been regarded as one of the most important causes in producing neurasthenia; work itself probably can never produce more than a temporary state of exhaustion, recovery from which is pretty certain. The period of relaxation and rest in the individual who adds worry to his work is prevented almost totally.

The injury results largely because the mental activity incident to worry is ineffectual and unproductive. If it be granted that worry is a common condition among this class of workers, and my own experience would seem to admit this, then we have one factor which can be brought into direct relation to the prevalence of neurasthenia in so high a proportion of garment workers.

There is one other significant phase of factory methods largely used in garment trades that merits attention, namely, the piece-work system. I am conscious that in touching upon this, I am treading upon delicate and debatable ground. My excuse is simply that I am talking and thinking as a physician who has no expert knowledge on this subject, but is mindful only of this one fact, that, medically, the piece-work system is perhaps the most pernicious thing that could be devised to weaken what, for a better term, might be described as the dynamic efficiency of the nervous system. I am referring, of course, to the unregulated piece-work system in which there is no maximum or average amount of work set down to keep the worker from speeding beyond his capacity. The pay that the piece-worker obtains for his labor is ingeniously devised, and subject to

change in amount, so that he must work at top speed to make it worth while. With the increased efficiency of the piece-worker, the price per piece of work turned out is commonly decreased, so that a greater and increasingly more intense effort is necessary to reach the individual's maximum reward for his labor. It needs no argument to convince even a sturdy advocate of that new idol, called efficiency, that such methods are bound, in the long run, to use up the worker. Charles William Eliot, in his recent essay on Trade Unions and Capitalism, refers to piece-work in this way: "Unless the stimulation to the individual is so intense, and the piece or contract work so limited and monotonous as to become unwholesome." From so earnest an advocate of the gospel of work and the virtue of competition this is certainly significant. I have in my clinical experience sufficient evidence, I think, to suggest that the piece-work system is in some instances a very direct cause in the production of a neurasthenic condition in a worker.

From the study of this rather large number of individuals engaged in similar kinds of work, it seems to me impossible to avoid the conclusion that the incidence of neurasthenia is altogether too high to be accounted for by racial or social peculiarities.

Some of the conditions found in the garment trades which medically are recognized as important causative agents in the production of neurasthenia, I have endeavored to point out. Their absolute or comparative importance can only be arrived at by studies of a similar kind in other trades in which the material to be studied is of the same general kind in regard to racial and temperamental peculiarities.

It might be suggested that a collective investigation of such a kind on a large scale embracing many kinds of trades followed through by different investigators, at various different centers, might throw additional light on the stubborn fact that some 25 to 30 per cent of 7,000 garment workers who applied for relief at the Jewish Dispensary in the nervous department were found to be subjects of neurasthenia.

INDUSTRIAL DISEASES IN AMERICA

By

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The actual and relative extent of industrial diseases in America can not be stated with even approximate accuracy at the present time. Our system of factory inspection is inadequate and woefully lacking in the required medical assistants who alone can provide the necessary technical ability for qualified inquiry into the actual conditions of health and life in modern industry. The annual reports of our state factory inspectors contain very little useful information, and they are in this respect in marked contrast to the annual reports on factory inspection in England, Germany, France, Austria, Belgium, etc. There can be no really useful system of factory inspection without the assistance of medical inspectors, including women medical inspectors, as is the case in the United Kingdom. The value of medical assistance in factory inspection, and most of all in special inquiries to determine health-injurious industrial processes, is no longer open to discussion. The many valuable and far-reaching reports which have been made by the factory inspection service of the United Kingdom, and by special departmental committees and royal commissions, emphasize the corresponding necessity of qualified investigations in this country. Mention may be made in this connection of a recently published report of a departmental committee appointed to inquire into the dangers attendant on the use of lead and the danger of injury to health arising from dust and other causes in the manufacture of earthenware and china, and in the processes incidental thereto, including the making of lithographic transfers. The disclosures of this investigation

are of peculiar application to American industries, but we have no means at present of making an equally thorough investigation into the conditions as they exist in the centers of our pottery industry. Equally suggestive and important is the special report of a Home Office committee on dangerous or injurious processes in the smelting of materials containing lead, and the manufacture of lead, orange red, and flaked litharge, which brings out the extent of lead poisoning in the various industries manufacturing or using lead, including processes in zinc smelting and observations on remedial measures, supplemented by rational recommendations for rules in conformity to German and French regulations.

Mention may also be made of a special report on dangerous or injurious processes in the coating of metal with lead or a mixture of lead and tin, the results of which apply to a number of American industries employing many wage-earners more or less exposed to conditions detrimental to life. Finally, reference may be made to the report of a Departmental Committee on Humidity and Ventilation in Weaving Sheds, the conclusions of which apply to a large proportion of our textile industries, in which the conditions are far from satisfactory. We therefore need in this country, in every state, a thoroughly equipped factory inspection service, including medical assistants trained in the principles and practice of industrial hygiene, and other experts qualified to investigate and report upon the numerous elements which enter into the whole question of rational health conditions in industry.

A committee, appointed by the First National Conference on Industrial Diseases to wait upon the President and present to him a memorial suggesting the appointment of a national commission on industrial diseases, have presented a thoroughly digested report in support of their recommendation that the whole subject of industrial diseases be made a matter of national concern. The committee laid stress upon the inadequacy of the existing state of information con-

cerning health in industry, and their suggestions were largely in conformity to the admirable plan of inquiry adopted by the Illinois State Commission on Occupational Diseases. It is sincerely to be hoped that the President will see his way clear to give his endorsement to the proposed investigation, and that the memorial will be sent to Congress and printed as a public document for the information of the people.

The subject of industrial diseases is certain to attract more general attention in the future on account of the country-wide demand for adequate workmen's compensation in the event of industrial accidents. Industrial diseases in many cases shade imperceptibly into industrial accidents, and the workmen's compensation legislation of England comprehends a large number of occupation diseases within the scope of the workmen's compensation law. On this ground alone a national inquiry would be of great practical value, and would establish the actual extent of harmful industrial processes as they afflict a considerable proportion of our wage-earners at the present time. It is hardly necessary on this occasion to emphasize the importance of industrial dust as a factor detrimental to health and life in industry, and the great practical importance of feasible methods of factory ventilation, dust removal, humidification, etc.

Industrial processes are often injurious not only to the health of the people employed therein, but occasionally to the surrounding population, and the vegetation of the nearby country within a radius of several miles. The practical aspects of this point are emphasized in the pending litigation against a number of large smelters, the fumes of which have been of serious consequence to the surrounding country, including national forest reserves, etc.; and a number of very important and useful contributions have been made on the effect of smelter smoke by the scientific bureaus of the Department of Agriculture. In this respect, as in many others, the disease-producing factors in industry are of public interest aside from their more immediate effect upon the health of a particular class of employes.

There is urgent need for a qualified expression of medical and other opinion upon the relations of industrial processes to the health of children and young persons. Obviously many trades are decidedly unsuitable for those who engage therein on account of defective physique, eyesight, hearing, etc., and the employment of all children and young persons in industry should be made subject to medical supervision and control. A brief treatise should be prepared by a competent committee to emphasize in the case of each particular trade or occupation the required physical capacity and endurance, the proper age at entry, and the health-injurious processes more or less likely to hinder bodily growth and future physical capacity. A word of warning would often be sufficient to prevent young persons, who are unsuitable for particular trades from engaging therein, thus saving them from serious detriment to health and the practical certainty of early invalidity and premature death.

Another important question which demands consideration is the inadequacy of medical certification of deaths, which often fails to disclose the true cause of death or important contributory circumstances, which, for purposes of public health administration, are required to be known. The secondary symptoms are very often of greater public importance than the immediate cause of death, and particularly is this true of diseases complicated by the slow absorption of lead, mercury, etc., by the human system. Medical practitioners require to understand better, and they should attach greater importance to, the symptomology of industrial diseases, but in particular to lead-poisoning in potteries, glassworks, white lead manufacture, house painting, etc. This is equally true of tuberculosis caused or complicated by industrial dust, which very often assumes the true character of fibroid phthisis or industrial lung disease, and requires to be specifically reported as such and separate and distinct from general tuberculosis of the lungs. The annual reports of boards of health should contain a brief statement of the facts concerning industrial diseases, so

that the local experience in particular trades may be utilized in the further development of the science and art of industrial hygiene.

But what is needed most urgently is the establishment of a *national institute of industrial hygiene* on a broad foundation corresponding in character and extent to the research funds established by far-seeing philanthropy in behalf of other causes. Surely there can be no better investment of five or ten million dollars than in the establishment of a national institute adequately equipped for research work, including the treatment of the more severe and obscure forms of trade diseases in special clinics similar to the far-famed institution at Milan. Such an institute could carry out the work proposed for a national commission on industrial diseases, and by publishing the results of qualified research work contribute immeasurably to the improvement of the conditions under which the industrial activity of the nation is carried on. Surely there can be no branch of scientific research in geology, botany, astronomy, physics, chemistry, etc., of more urgent necessity and of greater practical utility than research work to determine the causes, the methods of prevention, and the cure of industrial diseases. There is little enough material reward in the pursuit of industrial medicine as a distinct profession, but a national institute for industrial diseases would give the required encouragement and place the whole subject upon a broad and permanent national foundation.

In addition to the foregoing there is need of a national welfare institute for the improvement of labor conditions, including a national museum of safety devices, of which the New York institution is the nucleus and of which the Berlin institution is the ideal. Surely a national museum of specimens, of zoology, or of relics of antiquity can not compare in importance or utility with a museum of safety devices, whereby the calamities of industrial life are lessened and the ravages of industrial diseases are diminished. Surely what the generosity of the German government and German

philanthropy has brought about is easily possible of attainment in the United States.

In conclusion, then, the plea is, first for the appointment of a national commission to investigate and report upon the whole subject of industrial diseases; second, for the foundation of a national institute of industrial diseases upon the broadest plane of a liberal philanthropy corresponding to the great foundations of generous-minded givers in other fields; third, for the establishment of a national institute for the improvement of labor conditions, including a thoroughly equipped museum for safety devices. It would perhaps be difficult to comprehend a more ambitious program in a few words, but where the issue at stake is the wellbeing of the wage-earning masses, who by their toil contribute the sum and substance of our national wealth, the object to be attained is well worth while the required effort, and it is to be hoped that through persistent agitation on the part of the American Association for Labor Legislation these hopes and plans will be realized at a not far distant day.

COMPULSORY COMPENSATION FOR INJURED WORKMEN

By

DANIEL L. CEASE

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I will not attempt to consider the legal aspects of compulsory compensation other than to assert that our liability laws leave the burden of accident and death just where it falls, that administration of the law has been in the direction of strengthening the defenses of the employer, and in the protection of property rights as against personal rights. Our liability laws are obsolete, judge made, unfair, and demand a drastic change that will give a modern and humane application to the law of the killed and wounded.

It is customary to aver that compensation for injury or death will go a long way to reduce casualties, meaning that employers will install safety devices, and exercise greater care in the operation of dangerous machinery; but I feel certain that, even with assured compensation and the most perfect safety devices, there will always be a terrible loss of life and limb. We have reached that stage in industry of which it can be said that we have gone "output mad." Every scientific means, every mechanical device, has been employed as an aid to production, and with it the man has been shifted to the high speed which reduces the efficiency of safety devices, for it places the entire question of safety automatically upon the device.

The man cannot spare the time strictly to obey the rules laid down for his protection; but, despite that fact, when he is injured he usually is charged with negligence.

I almost wish that my paper had been confined exclusively to the specific rules for safety that are supposed to be in

operation on certain of our railroads. These rules are for the legal protection of the companies, and it is not intended the employes will observe them literally. They really are forced on the employe as a condition of employment for the purposes of taking away his defenses in case of injury, the federal law to the contrary notwithstanding; also to lead the public to believe that the railway employe is careless and indifferent of his personal safety, and they run counter to the insistent demand from the railway companies to have yards clear and trains moved regardless of the safety of the employes. These rules are used as common law defenses against liability.

I beg your indulgence for a moment to quote a paragraph from an official railway bulletin, of the protection to the employe kind, and to quote from a letter issued by a superintendent to his employes which told them exactly what was expected from them, regardless of the safety bulletin. I quote from the bulletin:

“ . . . Employes before they attempt to make couplings or to uncouple, will examine and see that the cars or engines to be coupled or uncoupled, couplers, drawheads, and other appliances connected therewith, ties, rails, tracks, and roadbeds, are in good safe condition. . . . They must exercise great care in coupling and uncoupling cars. In all cases sufficient time must be taken to avoid accident or personal injury.”

This rule is for the legal defense of the company; now note the letter to the men:

“Entirely too much time is being lost, especially on local trains, due to train and enginemen not taking advantage of conditions in order to gain time doing work, switching and unloading and loading freight. Neither must you wait until train stops to get men in position. It is also of the utmost importance that enginemen be alive, prompt to take signals, and make quick moves. In this respect it is only necessary to call your attention to the old adage, which is a true one, that when train or enginemen do not make

good on local trains it thoroughly demonstrates those men are detrimental to the service as well as their own personal interests, and such men, instead of being assigned to other runs, should be dispensed with. I am calling your attention to these matters with a view of invigorating energy and ambition, in order that your families who are dependent on you to make a success shall not some day point the finger of scorn at you, and that the public may not be able to say you lost your position due to lack of energy and interest in your own personal welfare, for which you can consistently place the responsibility on no one but yourself."

Compare the bulletin with the letter, and note the difference. If other evidence were missing this would be sufficient to substantiate the statements that safety rules are made for the legal protection of the company, while the opposing rules for dispatching work jeopardize the safety of the employes. I say to you now that if railway employes observed the companies' rules for safety, the railway lines of the United States would be, within twelve hours, as hopelessly congested as they possibly could be if a general strike had been in successful operation for a week.

Here, then, is the application of the usual safety rule intended for the defense of the company and public information, and with it the personal admonition to the employe to take the risks of the business as they come to him, not to lose time, not to sacrifice speed and efficiency for safety, and urging him to remember that if he does not make good he will lose his job and be humiliated by the "finger of scorn" pointed at him by a starving family. He takes the chance, the finger of scorn does not humiliate him, and he pays the price.

Fortunately we have in defense of this argument statistics of railway casualties, and taking the past year, for which a report has been made, we find that nine men were killed each twenty-four hours, and that one was injured or killed every seven minutes. To be specific as to casualties as they occur in the engine, train, and yard service, is to say that

one man was killed for each two hundred and five employed, and one was injured for every nine employed. The records of the Brotherhood of Railroad Trainmen show 16.4 claims paid per thousand insured; the Order of Railway Conductors pays 12 claims per thousand insured, the Brotherhood of Locomotive Engineers pays 8 claims per thousand insured, the Brotherhood of Locomotive Firemen pays 7 claims per thousand insured, and the Switchmen's Union pays 15.5 claims per thousand insured. And two-thirds of these claims are for accident. The working life of a brakeman is estimated at only seven years.

What do the railways pay? No one knows; but it is reasonable to say that ten per cent of injuries and deaths for which compensation is paid, is the answer, and the average amount paid is low.

The same rules for the defense of the employer are in operation in every industry.

The miners claim that four men are killed in America to one in Europe, and it is admitted that mining ordinarily and normally ought to be accompanied with less danger here than abroad.

Structural iron and steel workers and electrical workers stand a heavy loss in death and disability, only to be guessed at in the total, for we lack full statistics covering these occupations.

It has been estimated that annually four thousand Pennsylvania miners are killed or injured, and the records of Allegheny County, in which the great iron and steel industries of the Pittsburg district are located, showed ten thousand casualties a year, a large proportion of which were deaths or total disablements, and eighty per cent of which were inflicted upon men under forty years of age.

Few of these casualties have hope of recovery because no one was at fault, and the others have been divided among a half dozen causes, few of which contained hope of recovery from the courts. The great heart of the corporation, however, arbitrarily provides sometimes for death

or injury, paying as high as two hundred dollars for the loss of a leg or both eyes, and much lower amounts, which usually do not pay the doctor's bill, for other losses. Some of the larger companies, however, are now indemnifying for their killed and injured.

A system of almost perfect mechanical production has been installed, and the man must keep pace with it. So much must be produced per man, per machine per hour, and the man knows if he falls below the minimum of production he will lose his job, and a job is a job even in this land of opportunity. He knows the inexorable rule. The result is that to change a gear, shift a belt, adjust a feed, or any one of the thousands of ways that are offered the man to take a chance and keep his machine going without loss of time, are accepted at the price of safety, and he pays the price. The employer pays nothing.

The occupational diseases that must be assumed by the employe, of which there is really no record, must be considered among the casualties, although they have little hope of compensation. All of them add to the burden of general human misery arising from suspended or decreased wages.

So we say advisedly, until sane rules of employment regulate industry, until it costs more to kill a man than to protect him, until the man and the machine are brought closer to the relative endurance of each other, and safety devices are installed that automatically will prevent accidents, we shall have an annual casualty roll that will warrant a repetition of the statement, that the mines are stained with the blood of their victims; every skyscraper is cemented with the blood and brawn of its builders; every large enterprise is baptized in the blood of its workmen.

Does it not appeal to you that there is an underlying cause other than negligence that is responsible for the casualty record? That a man works for another does not mean that he is indifferent to physical and mental pain.

The general toll of industry is estimated at anywhere from one-half million upward annually, but we are unable to do

more than estimate, for outside of railways no reliable statistics are available. The major portion of the killed and injured are young men. America has fixed the dead line of labor many years below that established as the earning capacity years of Europe wherein we find our principal business competition. This means that in America the results of injury have to be reckoned with many more years per man than elsewhere.

In a general way we realize what it means to the man who is left helpless and hopeless. One can, in a way, imagine the physical suffering which we believe can in part be compensated, but God alone knows the mental depths of despair to which the one time physically perfect man is plunged when disability overtakes and threatens his earning capacity, for in this day he knows when he cannot work he becomes a pauper. I have seen strong men weep like children when they were out of work temporarily, and their families were forced to limited living. What must it mean, then, to the one who in a moment knows he is done forever? If time permitted I could tell you of the last words of men who met death with only duty on their minds; who remembered their great responsibilities even with the death sweat upon their brow; who fearlessly met the grim destroyer with full consciousness of all that it meant to them, and the only expression of personal concern apart from duty done was the heart-breaking question, what will become of my wife and the kiddies?

Is it right for that wife and those children to be thrown upon the world without a dollar or a home other than the charity institution? Society through the employer has demanded its sacrifice, therefore the human wreckage, the only unrewarded factor of our national business supremacy, should be recompensed.

We have been so busy making money that we have forgotten the real man who made it, forgotten his family, neglected ordinary rules for national welfare and safety, until we are overwhelmed by the enormity of our industrial

offenses, and, we hope, shamed into an effort toward forcing restitution. I say "forcing", for it never will be made otherwise.

We ask that every human sacrifice be fully compensated, without having to wait for the delays and uncertainties of the courts; we want the injured not to have to suffer mental pain with his physical ills for fear of the future of himself and family; we demand medical, surgical, and hospital attention; we want certainty of responsibility fixed for the employer, with certainty of compensation fixed for the employe; we want the injured employe and his family to remain just as useful members of society as they were before the industrial sacrifice was made! We want the defenses of negligence, fellow servant, and assumption of risk eliminated; and the professional risks to rest upon the profession, not upon the injured employe so that liability will not offer its present invitation to fight, and that compensation will be acceptable to both parties. This is, I believe, the only way we can enforce compensation.

It is not right to permit the employer to continue in his defense of "professional risk" and to hide behind it to the exclusion of the rights of his employes, nor for society through its various charities to assume the burden of protecting the families of those who have laid down their lives or been hopelessly maimed in his service. It is inhuman to compel the employe to accept the responsibility for accident in exchange for the opportunity to work. That responsibility belongs exclusively to the employer.

American industry has been protected in every way possible by law and court decision, but the employes, the foundation of American industry, have been thrown aside as scrap, and their bruised and broken bodies added to the long roll of human wreckage to attest to the unrecompensed sacrifices made in its behalf.

I emphatically stand for a national compensation act, to care for employes who can be protected by the federal government, and for the enactment of uniform state legisla-

tion that will compensate for the loss of life and limb which thus far has been given away for the right to work. It may seem coldly calculating to set a cost on life and limb; it even may appear to be fixing the price for a continuance of human butchery; it may seem to be inviting injuries under certain conditions, but if life and limb must be sacrificed restitution must be made. Conceding, in part, these objections, which have little foundation in fact, every other reason is for immediate, permanent, and commensurate relief, which should not in any sense be considered an unfair cost to the employer, or a charitable proposition, but purely as a "part of the day's wages."

VOLUNTARY INDEMNITY FOR INJURED WORKMEN

By

FERD C. SWEDTMAN

Chairman Industrial Indemnity Committee, National
Association of Manufacturers.

Let me begin my argument with the startling statement that in my opinion *voluntary* indemnity alone will never settle the problem of providing equitable compensation for the incapacitated members of our industrial army. But let me add to this statement, that I feel equally sure that compulsory action *alone* will never settle the problem.

Only by *compulsion* can the reactionary member of society be made to do his share of the common duty. Only by *voluntary* action will the patriotic progressive individual do the best that is in him or her. Only by *compulsory* legislation can a national system be established which will provide the necessary regulations for prevention of accidents and minimum relief for disabled workers or their dependents. Only by *permissive* legislation and voluntary action can the best individual effort be encouraged and the maximum benefits secured.

I need hardly say that when I speak of "progressives", "reactionaries", fair and unfair, I speak of all the nation and not of a class. I speak of legislators and lawyers, employers and wage workers, insurance men and doctors. We are wasting time when we seek to blame one set or class of people for the shortcomings of our present scheme. The large majority of all people is fair minded and wants to do the right thing. I could show you to-night systems of relief in some of our members' shops, which are fully as liberal in dealing with their injured, sick or superannuated workers as the very best European examples, and in several cases such systems cover establishments with five to twenty-five thousand employes. It is the system, and not the men, that should be criticised.

In order to improve our present system and change it to a point which is in keeping with our great country, our institutions and our people, we need the patient and hearty coöperation of the good people of all classes. This is not the time and place to enter into a discussion of employers' liability laws or systems. The question is no longer "Should we establish an accident compensation system?" The question is "What should be the basis and principles of our future compensation system?" The National Association of Manufacturers, which I have the honor of representing, has put itself officially on record as disfavoring any kind of employers' liability scheme, because they are "unsatisfactory, wasteful, slow in operation and antagonistic to harmonious relations between employers and wage workers." In place of such a system the National Association of Manufacturers recommended, at its last annual meeting, an equitable indemnity system, automatically providing relief for victims of industrial accidents and their dependents. Special stress is placed, officially, upon *accident prevention* as being of even greater importance than compensation.

Since this official declaration was adopted a four months' inquiry into European systems has been completed by Mr. Emery, our legal counsel, and myself, and our report has been placed before the officers of the National Association of Manufacturers and a large body of fine men, who, as members of a special Advisory Board, are giving us the benefit of their judgment and experience.

I shall read some extracts from our latest findings. But before proceeding to do this, let me assure you that our European investigation was not conducted with the expectation of adopting, as a whole, the system of any one of the European countries. We shall never Anglicize, Germanize or Gallicize our institutions or our people. We can, however, greatly profit by foreign experience with a common problem. The world owes a debt to those nations which, with prudent boldness, have deliberately undertaken vast social experiments for the benefit of their people. It is not only

our privilege, it is our duty, to benefit by the experience of such nations. And now for the findings of our Committee. Our Committee finds:

That limited compensation for personal injury received in the course of employment is assured in substantially all European countries; that it rests upon the acknowledgment as a basic fact that injury by accident in employment arises not only from negligence, but from the risk inherent in the use of modern implements of production; that the economic effect of the increasing percentage of unavoidable accidents should primarily rest upon the employments in which they are incurred, and not upon the individual who receives them, through a system of compensation which, providing him and those dependent upon him with substantial relief, likewise operates to minimize preventable accidents by every precaution; the pecuniary burden of the system passing to society for whose ultimate benefit it has occurred as the cost of production. The fault ceases to be the basis of recovery except where it jeopardizes the safety of fellow employes, or assumes the form of wilful self-injury or criminal negligence; that the principle is and should be applied to *all* employments, save in exceptional instances where difficulties of application merely defer its extension.

That all countries adopting the compensatory principle are not equally successful in applying it, but the better results of European experience demonstrate that the principle is socially beneficial, economically expedient and industrially advantageous, and, if applied in conformity with our form of government, mode of thought and condition of labor, would confer undoubted benefits.

That the advantages perceived in the compensation system were secured and are maintained only in accompaniment with a sound, vigorous and scientific system of accident prevention, stimulated by public and private coöperation, with suitable provision in all cases of personal injury for prompt and efficient first aid medical treatment.

That the compensatory system has been successfully ap-

plied in Europe only when based upon the careful investigation of trained minds, predicating their conclusions upon ascertained facts. We believe intelligent legislation must be based upon deliberate investigations and accurate information, and that the success of any scheme is inseparably associated with the scientific system of accident statistics and investigation of accident causes.

We find in all European states that compensatory legislation is intended to exclude, or purposely endeavors to discourage or retard, the use of pre-existing remedies for recovery in action based upon personal injury. We find that a single liability is essential to satisfactory operation of the compensatory principle, and its adoption should be accompanied by the repeal, so far as possible, of all other remedies within the limit of its application.

We find as an essential feature of all European systems, provision for rapid, cheap and impartial adjustment of compensation claims by tribunals of arbitration, whose judgment is final on questions of fact, and subject to one or more appeals on questions of law.

Compensation must be assured, or it becomes an empty right and useless remedy. If it is dependent upon the solvency of the employer, the position of the employe or small employer is not improved. Insurance alone assures solvency, guarantees recovery to the workman, and lessens the burden of the employer. Provision should, therefore, be made whereby every employer of labor shall satisfy the proper state authorities that the payment of the prescribed compensation is assured to his employes through either one of the following methods:

First—by the employer's own financial liability, or

Second—an accident insurance department organized and maintained by the state, or

Third—by insurance in private liability insurance companies, duly approved by the state, or

Fourth—by insurance in mutual insurance associations duly approved by the state.

Assurance under any one of the last three plans must operate to relieve the employer from personal liability. The closer the connection and coöperation between shop management, insurance management and accident prevention activities, and the closer the insurance rates are based upon the individual accident prevention effort of a shop, the better and more efficient the system will be.

We find in the complete statistical record of the German Empire covering a period of twenty-five years, and sustained by the less complete returns of other European countries and the relative rates of private insurance, that we must adjust our conventional notions of the comparative hazard of various employments. European and Canadian evidence indicates a high percentage of accidents in agricultural as well as in industrial pursuits. If, therefore, any one employer becomes an insurer against accidents in employment, all employers should bear the same burden in proportion to the actual hazard of their particular pursuits. We find that the application of the principle of compensation should be universal or it places unequal and arbitrary burdens upon classes of employers and denies participation in the benefits of its remedial provisions to vast classes of wage earners.

We believe those systems most equitable and effective which require contribution from employer, wage worker, and possibly the state. A system cannot be effective in preventing accidents or in discouragement of fraudulent claims which does not secure the fullest coöperation of employer, employe and state; and no system can be just, or in keeping with the American spirit of securing benefits in proportion to individual effort, which does not place the burden of making compensation for accidents jointly upon those responsible for their occurrence.

We feel called upon to emphasize that any application of the compensatory principle requires assurance of substantially uniform legislation by the states of the Union. The establishment of a variety of systems differing in form and

substance and creating new liabilities, varying in nature and degree, would produce conditions too obviously harmful to require amplification.

We are conscious that the introduction of principles implying systematic compensation of accident into our form of government bristles with legal difficulties. We here are not concerned with their consideration or discussion; we are primarily interested in the selection of a sound policy. The nature and extent of desirable change is to be ascertained before the method of its execution becomes the primary concern. We believe, however, that the encouragement of voluntary action by employers has not received sufficient public consideration. While our legislatures deliberate over their powers of compulsion, they might also with profit give full consideration to their opportunities for persuasion. The voluntary adoption of equitable schemes can be expedited by lessening the liability of employers who guarantee just compensation, as well as by threatening the legal defenses of employers who do not.

The basis of our conclusions we shall be able to place before members of the American Association for Labor Legislation at an early date in the form of charts, diagrams and figures. They are compiled from an investigation of the subject among 20,000 American manufacturers and after a four months' study of European conditions.

The short time at my disposal does not permit such a lengthy and thorough discussion of the whole subject as I should like to indulge in, but in conclusion I want to impress upon you the advisability of your coöperation with progressive employers' associations. It requires the best efforts of all patriotic men and women interested in this question to settle it equitably and promptly. The scientific man alone can accomplish little; the same holds good of the legislator, the lawyer, wage-worker, and the employer, but coöperation between all of these forces will result in the early adoption in all the states of the Union of a system which is reasonably free from all the defects of European systems, and which at the same time embodies the best points of all of them.

PROBLEMS AND PROGRESS OF WORKMEN'S COMPENSATION LEGISLATION

By

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The distinguishing feature of a workmen's compensation act is that it establishes a legal obligation on the part of employers to pay or to provide for the payment of a fixed or readily determinable sum in relief of the loss of income sustained by employes or their dependents by reason of industrial accidents arising out of their employment. This principle has been enacted into law by statutes recently passed in New York, Montana and Maryland.

The New York Legislature has passed two compensation acts. One (Ch. 674 Laws 1910) gives to employes injured in certain specified employments, declared by the act to be especially hazardous to employes, the right to recover a fixed compensation from their employer regardless of his negligence or freedom from it. The other (Ch. 352 Laws 1910) applying to all other employments except railroad-ing, provides a plan of compensation which, when formally consented to by the employe and employer, is substituted for their respective rights and liabilities under the existing employers' liability law.

The Legislature of Montana has passed an act (Ch. 67 Laws of 1909, effective October 1, 1910) creating a state fund for the insurance of mine workers against death or permanent total disability from accident arising in the course of their employment, and levying a tax on employers and employes for the support of the fund. Maryland has passed a similar act (Ch. 153 Laws of 1910) which creates local funds in two counties for the insurance of coal and clay miners against temporary or permanent disability and death.

These are the only workmen's compensation laws in this

country. The Maryland Act of 1902 (Ch. 139) was a limited death insurance act which, since it was declared unconstitutional by a lower court, has been allowed to lapse.

The Act of Congress of 1908, giving one year's wages to government employes injured in the course of their employment, is an employer's voluntary compensation plan, similar to the relief provisions established by private corporations for their own employes. The Massachusetts Act of 1908 (Ch. 489 amended by Ch. 211 Laws 1910) gives public sanction to compensation plans adopted by employers and their employes and approved by a public officer.

The interest in the subject and the apparent demand for compensation laws is now so widespread that it may seem surprising that so little legislation has been secured. By legislation is meant enacted statutes, not drafted bills. A summary of enacted laws does not, however, represent the progress made in this field during the past two years. The movement to secure the enactment of compensation laws in this country really began in 1909, when commissions were appointed in New York, Wisconsin and Minnesota to investigate industrial accidents and employers' liability, and to suggest remedial legislation.

Prior to 1909 there had been much discussion of the theory and merit of the compensation plans of other countries; reports on the operation of foreign systems had been issued by Federal and State labor bureaus; bills involving some form of compensation had been introduced in state legislatures; but serious legislative consideration of the subject had been confined to Massachusetts, Illinois and Connecticut. In 1904 the Massachusetts legislature refused to pass a bill, modeled after the English Act of 1897, which had been drafted and recommended by a special legislative committee.

In 1907 an industrial insurance commission reported to the Illinois legislature recommending the enactment of a law permitting employers to escape their common law liabilities for industrial accidents by contracting with their em-

ployes to insure them in accordance with the provisions of the act. This bill also failed of passage.

In 1908 Massachusetts, on the recommendation of a committee which reported adversely to a compulsory compensation bill, enacted the law above referred to by which employers and employes were permitted to enter into contracts fixing rates of compensation for injuries.

While very little progress was being made prior to 1909 in securing legislative recognition of compensation, there was a general tendency throughout the country to enact laws increasing the possibilities of recovery by employes in actions against employers from injuries arising out of industrial accidents. These laws, commonly known as "employer's liability laws", abolished or restricted the common law or judge-made rules by which employers were able to defeat recoveries by their injured employes on the ground (1) that the injury complained of was caused by the negligence of the employe's fellow servant; (2) that the employe had assumed the risk of the accident which gave rise to the injury; or (3) that the employe's negligence had contributed to the causation of the accident. The extent to which these laws increased the employer's liability varied in different jurisdictions. Perhaps the most liberal from the employe's viewpoint was the act of Congress of 1908 which, as to employes of common carriers engaged in interstate commerce, abolished the fellow servant rule, restricted the implied assumption of risk, and made contributory negligence of the employe a reason for reducing his damages, but not ground for dismissal of his action.

The employers' liability laws maintained the common law theory of liability, and provided for recovery by the employe only where he could show some fault on the part of his employer; they did not attempt to extend the employer's liability to those accidents which may be said to be inherent in the employment rather than due to fault or negligence. In two important particulars, however, these laws contributed to the subsequent progress of the compensation movement.

They served to center public attention on the injustice of the results produced by the operation of the judge-made law relating to employer's liability. They caused employers who saw their liability increased and their liability insurance rates mounting higher and higher with each restriction of their common law defences, to become more hospitable to the compensation idea.

In 1909 a Connecticut commission, appointed in 1907, reported that the employers' liability laws were not giving satisfaction, but that it was inadvisable at that time to recommend a compensation law. During the same year the legislatures of New York, Wisconsin and Minnesota authorized commissions to investigate compensation for industrial accidents.

To appreciate accurately the progress made since the appointment of these commissions it is necessary to consider (1) the extent to which public opinion has become interested to support the enactment of compensation laws, and (2) the extent to which the economic and constitutional obstacles have been overcome. Settlement of the technical problems means but little in legislative progress if public opinion remains unfavorable. On the other hand an aroused public opinion represents but little progress in legislation if economic and constitutional barriers still block the way.

Remarkable progress has been made in securing for compensation the intelligent support of public opinion. The public, exclusive of employer and employe, has awakened to its interest in the results of industrial accidents. The operation of the rules of liability developed by the judges under the common law, and to a lesser degree under the employers' liability laws, results in placing on the injured employe and those dependent on his wages the entire hardship of his injury. The injustice to these individuals as well as the possible necessity for public care of incapacitated employes or their impoverished dependents, and the probable public loss in a tendency toward lower citizenship of dependent minor children deprived of the advantages of education and home

life, have given rise to a public demand that fixed or readily determinable compensation for all industrial accidents be substituted for the existing system.

Interest in the subject has spread rapidly over the greater part of the country. Commissions are preparing compensation bills for submission to the 1911 session of the legislatures in Massachusetts, Ohio, Minnesota, and Wisconsin. The Illinois commission reported on September 15th, 1910, that it had been unable to agree upon a bill in the limited time allowed for its investigations. Commissions are investigating the subject in New Jersey, Missouri, Montana and Washington, and steps have been taken for the appointment of commissions in Pennsylvania and West Virginia. By authority of Congress, President Taft has appointed a commission to consider compensation legislation for employes engaged in interstate commerce. Committees on compensation laws have been appointed by the Conference of Governors, by the Conference of Uniform State Law Commissioners, and by the American Bar Association. In addition to these official and semi-official agencies many private individuals and associations, such as the American Association for Labor Legislation, the American Civic Federation and the National Association of Manufacturers are actively coöperating in what bids fair to be a general movement to place some kind of compensation law on the statute books of every jurisdiction in the country.

The objection that a compensation act would seriously add to the burdens of industry in the state where it was enacted, and thereby handicap that state in its industrial competition with other states was effectively interposed to prevent such legislation in Massachusetts in 1904, and again in Connecticut in 1909. On the one hand it is said that the added cost of compensating all injuries to workmen will drive industries out of the state which enacts such laws into states where the common law or employers' liability laws still prevail. On the other hand it is said that the industrial advantages—particularly the improved relations

between employer and employe and the consequent improvement in the character of the employes' work—will make it entirely safe for any state to pass such laws irrespective of the action of other states. Germany is cited as an example of industrial development under a strict and extensive compensation and insurance law despite competition with countries where laws less favorable to employes prevailed. Evidently the "bugaboo of interstate competition" influenced the New York Commission, for its act applies only to those employments in which there is little or no interstate competition. The tentative drafts of acts prepared by the Wisconsin and other state commissions contain no such limitation.

Whatever the importance of this objection to compensation legislation in a single state, a movement has already begun to overcome it. The 1910 Conference of Commissioners on Uniform State Law appointed a committee authorized to draft a uniform compensation law. A meeting of this committee was held in New York on December 23 immediately following a conference of the Department of Industrial Accidents of the National Civic Federation. The results of these conferences will probably go far toward removing the obstacle of interstate industrial competition by securing uniform compensation acts in all the important industrial states.

The immediate effect, however, of the efforts of the uniform law committee may be to delay progress in several states. The committee has suggested that commissions which are expected to report to 1911 legislatures should delay their reports, if possible, until a uniform act is prepared and agreed upon. It is easier to secure uniformity in this way than by substituting a uniform act for one previously enacted. This suggestion may delay the reports of the commissions of Minnesota, Wisconsin, Massachusetts and Ohio, or may influence the action of the 1911 legislatures in these states. According to the rules of the Conference on Uniform State Laws any act drafted by

the committee on compensation must be reported to the 1911 Conference and agreed to by the conference before being reported to the several state legislatures for enactment.

Employers as well as employes are convinced that some form of compensation law is desirable. There are, however, some important details upon which compromises must be effected before any particular bill will receive the support of both the parties directly affected. Employers believe that all existing rights and liabilities respecting compensations for injuries should be abolished and the whole law of the employers' liability embodied in a compensation act. Employes seek to retain these existing rights and remedies concurrently with the added advantages of a compensation act. The New York compulsory act does not abolish existing remedies, but puts the injured employe to his election after the accident whether he will proceed under his old remedies or under the compensation act. The tentative draft of an act prepared by the Minnesota Commission abolishes all existing remedies. Other suggested bills abolish existing remedies, except where the injury is due to the personal negligence of the employer. In order that the objectionable features of common law litigation may be entirely removed from the law of employers' liability it seems desirable that the existing remedies be repealed so far as it is possible to do so. This was the conclusion of the conference of commissioners at Chicago on November 10, 1910. The principal difficulty, in addition to the attitude of the employes, is a constitutional one which may be considered later.

Again, employers and employes are not agreed as to the rates, terms, and period of compensation. Employers contend that compensation acts should distribute the burden of industrial accidents, not transfer it entirely to the industry, and therefore that the compensation payable to the employe should be less than his entire loss. Employes contend that the industry rather than the employe should bear the burden of losses inherent in the industry.

The New York acts give to dependents of a killed em-

ploye a sum equal to twelve hundred (1200) times his average daily wage not exceeding a total of three thousand dollars (\$3000), and to wholly or partially disabled employes a sum equal to 50 per cent of their loss in average weekly earning capacity, not exceeding the sum of ten dollars per week for a period of eight years. These provisions are subject to the limitation that in no case shall the compensation exceed the damage suffered.

A more liberal scale of compensation is provided by the tentative bill prepared by the Wisconsin commission. In case of disability the injured employe is allowed 65 per cent of his weekly wage, not exceeding three times his annual wage for any one injury, for an aggregate period not extending beyond fifteen years. Dependents of a killed employe are allowed a sum equal to three times his annual earnings not exceeding a total of three thousand dollars (\$3000) payable in weekly installments.

The schedule of rates agreed upon at the Chicago Conference in November of this year was as follows: For temporary or permanent disability one-half of the impairment in wages, but not more than ten dollars nor less than five dollars per week for not more than three hundred weeks.

For total dependents in case of death a sum varying from 25% to 60% (according to number of dependents) of the employe's wages, but not more than ten dollars nor less than five dollars for not more than three hundred weeks.

These provisions indicate in a general way the tendency of proposed legislation. It is difficult to estimate how far employers and employes differ as to the fairness of these allowances. As bearing upon this question, however, it is interesting to note the attitude of the employes' representatives on the Illinois commission which on September 15, 1910 reported its inability to agree on any recommendation with regard to compensation. They stated flatly that they would not agree to compensation laws unless they had first secured liberal employers' liability laws. The obvious purpose of this position is to secure a lever by which to in-

crease compensation rates. At the present time the employer can say to the employe, "You ought to be satisfied with compensation of 50 per cent of your wages for a limited period; you will at least get something where you now have nothing". If the employe can secure employers' liability laws as liberal as the act of Congress of 1908—and the tendency is certainly in that direction—his possibilities of recovery without compensation laws will be much increased. He may then say to those who propose compensation laws that the sums fixed by those laws must be reasonably proportionate to his rights under the employers' liability laws. In other words, the employe may well believe that in fixing the rates and period of compensation, legislatures are apt to be influenced by the rights of the employer and employe existing at the time the compensation law is passed. If before that time the employe succeeds through some favorable liability laws in increasing the amount which employers are obliged to contribute annually to their injured workmen, may he not reasonably expect that the rate of compensation will be proportionately higher?

If it be contended that there is a limit to the burden which industry can bear, the employe may reply that an actual test should be made; that for many years society has tested the employe's ability to bear the loss involved in industrial accidents, and the employe has paid the cost of the experiment; and that until it is actually demonstrated that industry cannot bear the cost of fair compensation for the full period of incapacity or dependency the cost of further experiment should be borne by the industry. The serious answer to this position, however, is that employes as well as employers have an interest in the preservation and extension of our established industries, and experiments which may seriously handicap or ruin an industry are more serious to employes than their present losses incident to industrial accidents.

The determination of fair rates and terms of compensation—fair to employer and to employe—requires a thorough

study of existing conditions in the various industries, and, until such a study has been made, estimates of what is fair, or of what the industry can bear, can be little better than guesswork.

The principal impediment to progress in securing workmen's compensation legislation in this country has been the contention that it is unconstitutional. To appreciate this difficulty it is necessary to keep clearly in mind the chief purposes of this legislation. Briefly these are (1) to secure to employes compensation in all cases of injury through accidents which arise from risks inherent in the particular employment; (2) to make this compensation either fixed or readily determinable without resort to common law rules of damages or jury trials; (3) to do away with the waste of time and money and the hostility between employer and employe involved in litigation over the fact and the measure of liability.

The constitutional objections urged against compensation legislation are:

(1) That it is an unwarranted interference with individual rights of personal liberty and private property guaranteed by the 14th Amendment to the United States Constitution, and by similar provisions in most of the State Constitutions; and that the limitations of such legislation to specified classes of employments entails a deprivation of the equal protection of the laws.

(2) That the attempt to create a fixed liability to pay a fixed compensation without resort to a jury trial deprives the employer or employe, or both, of the constitutional right to trial by jury.

(3) That a fixed compensation is forbidden by specific provisions in the constitutions of some states.

The 14th Amendment provides: . . . "Nor shall any state deprive any person of life, liberty or property without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws."

In considering whether a compensation act violates these

provisions it is important to determine whether the act is to be limited to accidents inherent in and incident to the risks of the employment, or is to cover all accidents causing injuries to the employe in the course of his employment. Shall the act cover, for example, the English case where a workman while opening a bottle containing part of his luncheon sustained an injury resulting in blood poisoning and death. The injury happened in the course of, but was not inherent in or incident to, his employment. It might have happened to him or any one anywhere. If the act covers such injuries it will probably be held unconstitutional, because it takes the employer's property without his consent, and without his fault, and without any peculiar circumstances requiring an exercise of the state's police power, and gives it to the employe to relieve him from the hardship of a pure accident.

The New York act is limited to "personal injury by accident arising out of and in the course of the employment . . . caused . . . in whole or in part . . . by a necessary risk or danger of the employment, or one inherent in the nature thereof" Even when thus limited, compensation laws necessarily impose on employers the liability to compensate workmen whose injuries cannot be traced to any fault of the employer. It is said that fully 50 per cent of industrial accidents are due to risks of the trade rather than to any fault of employer or employe. "They just happen." Such accidents cannot be prevented, as industry is now conducted, by any degree of care on the part of the employer, and if he is made liable for them he becomes practically an insurer of the safety of his employes. A law establishing such a liability involves the taking of employers' property for the benefit of employes. Whether it amounts to a deprivation of property within the 14th Amendment depends upon its reasonableness as an exercise of the power of the state to establish regulations for the public safety or welfare.

In suport of the reasonableness of such a law it has been

suggested that similar degrees of liability are well known at the common law. The owner of dangerous property or animals is absolutely liable for the damage done by them, irrespective of his care in preventing it. The United States Supreme Court has recently upheld a state statute making railroad companies absolutely liable for injuries to passengers. In like manner it is argued that the state may provide that an employer who voluntarily enters into a particular business thereby assumes the risk of all accidents inherent in and incidental to that business, irrespective of the possibility of preventing such accidents.

Without reference to analogies at the common law, the principle of liability without fault may be sustained as a reasonable exercise of the state's police power, if it can be shown that existing social and industrial conditions require that the burden of all industrial accidents be transferred from the employe to the employer. The courts have not laid down any general rule limiting the police power or defining what is a reasonable exercise of it. It is settled, however, that in order to justify state interference with personal liberty or private property, there must exist conditions which reasonably require regulation involving such interference.

Can it be said that such conditions exist in all employments? Some employments, such as railroading, subject employes to constant risk of serious injury. Clerks, on the other hand, may be exposed to less risk while at work than while going to or from their places of employment. So far as a compensation act is dependent on existing conditions, it seems more likely to be held a valid exercise of the police power if it is limited to hazardous employments. For this reason the New York Act applies only to specified employments declared by the legislature to be extra-hazardous.

This limitation of the act to selected employments gives rise to the additional constitutional objection that, unless the classification which forms the basis of the selection is fair and reasonable, those who are thereby subjected to

the special burden are deprived of the equal protection of the laws. A reasonable classification of employments is as difficult to define as is a reasonable exercise of the police power.

It would seem, however, that not all the employes of an employer engaged in a hazardous industry, but only those subject to the hazards of the industry, should be included in the act if the classification is to be upheld by the courts. The classification upon which the New York Act is based, as shown by the Commission's report, depends, not on the presence of hazard, but on the absence of interstate industrial competition, and this fact is seriously urged against the constitutionality of the act in the litigation now pending in the New York Court of Appeals.

Various schemes of classification have been suggested. One state commission proposes tentatively that all employers of a specified number of workmen shall be subject to the act. This is a species of classification which has been held constitutional for other purposes. Again, it has been suggested that the act apply to all "hazardous employments" leaving it to the courts to determine which are such. It seems better, however, and ought to be possible for the legislature to determine with reasonable accuracy what are the employments in which there is grave danger of serious injury to employes and to pass an act specifically applying to employes subject to the hazards of such employments.

Many state constitutions contain provisions guaranteeing the right of trial by jury in civil cases. A similar provision in the United States constitution applies only to actions in the United States courts and does not affect state legislation. It is objected to compensation laws that they deprive both employee and employer of this fundamental right.

The employee's right of trial by jury would probably not extend to those cases where his right to recover depended wholly on the compensation act, i. e., those cases where his employer is not now liable. The legislature in giving

the employe a new right may prescribe the remedy by which he shall enforce it. But in those cases where the employe now has the right of trial by jury in actions of tort against his employer it seems that an attempt to substitute any other mode of determining his right to and the amount of his damages would deprive him of his constitutional right. It is for this reason that, in most of the suggested bills, the employe's existing rights, including the jury trial where he is now entitled to it, are not abolished but are continued concurrently with his additional right to compensation.

The right to jury trial may be waived. Therefore it may be provided that the employe must elect after the accident whether he will proceed under the compensation act, or will insist on his common law rights and remedies. One of the purposes of compensation laws is to avoid common law litigation, and, particularly, jury trials. Since the employe's right to a jury trial must be left to him in the cases mentioned, it has been suggested that there be inserted in the law a provision making his election of his remedy a bar to any other procedure for the same claim, and an additional provision which will act as an inducement to the employe to elect to proceed under the compensation law.

The employer is likewise entitled to trial by jury. If, however, the legislature creates a liability in all cases of accident, and also fixes the amount of that liability, there is little left for a jury to try except the question of the employe's wilful negligence, and whether the accident occurred in the course of his employment. Even in these cases jury trials should be dispensed with if possible in order to secure the full advantages of compensation.

The New York act does not attempt to abolish the jury trial. It provides that all disputes as to compensation shall be settled in the usual way by suit at law, including the trial of questions of fact before a jury.

As a substitute for jury trial, compulsory arbitration has been suggested as a means of settling disputes. The legislature may require employer and employe to submit their

disputes to an arbitrator prior to bringing them before a court, but there is some question of the legislative right to provide that an appeal from the arbitrator's award shall be disposed of by the court only, without a jury. If the appeal must be tried before a jury, arbitration will not get rid of the annoyance of jury trials, but it will probably decrease their number.

The Wisconsin tentative bill creates an "Industrial Accident Board" with power to decide all disputed questions arising under the compensation act, subject to a limited right of appeal to the courts. The court without a jury is authorized to pass upon such appeals.

Another suggestion for the elimination of the jury trial is that the provisions of the compensation law—particularly installment payments and increases and decreases in the amount of such payments—create equitable, rather than legal rights, which require for their enforcement a procedure unknown to the common law, and that, therefore, all questions arising under the act may be finally settled by a judge sitting in a court of equity without a jury.

These are the principal constitutional objections to the compensation laws. The right of all persons to personal liberty, private property, and trial by jury are fundamental constitutional guarantees, and compensation laws must be made to conform to them. A few years ago the guarantee of personal liberty and private property would have been considered fatal to compensation. The courts are gradually taking a broader view of the state's power to legislate for the public welfare consistently with these constitutional guarantees to the individual, and are constantly discovering "constitutional loop-holes" by which social legislation having the support of public opinion may be fitted into our legal and constitutional systems. If existing social and industrial conditions resulting from industrial accidents afford a reasonable ground for the extension of employers' liability to all accidents, except those due to the wilful fault of the injured employe, then such legislation will be upheld as a

valid exercise of the state's police power. The constitutionality of the law depends upon its reasonableness, and this depends upon the existence of the conditions which are said to require its enactment.

The constitutional right to trial by jury—while it must be admitted that it is a serious obstacle to a compensation law which would abolish all existing employers' liability law, substitute therefor the provisions of the compensation act, and provide that all disputes be settled without recourse to jury trials—is nevertheless consistent with a law which secures many if not all of the substantial advantages of compensation.

The Wisconsin bill attempts to avoid the constitutional difficulties by making the enforcement of the compensation plan dependent upon its acceptance by employer and employee. By this method the act is made to rest, not upon the state's power to regulate, but upon the contract, express or implied, of the parties affected.

Where the constitutional difficulties arise not from fundamental principles of constitutional limitation, but from specific provisions in state constitutions in the nature of legislative enactments—as, for example, the New York provision that the legislature shall not limit the amount recoverable in actions for damages for injuries resulting in death—it may be necessary, and should not be difficult, to amend the constitution to permit the enactment of a compensation law.

Some of these constitutional questions will be settled by the decision in the case of *Ives vs. South Buffalo Railway Company* which will be argued before the New York Court of appeals early in January 1911. It may be that the decision in that case, which involves the validity of the New York compulsory act, will be announced by the court in time to enable 1911 legislatures in other states to profit by the New York experience before determining upon the precise form and contents of their compensation act.

The decision of the United States Supreme Court in the

case now pending before it, involving the constitutionality of the Federal employers' liability law of 1908, will throw some light on the question of the power of Congress to pass a compensation law applicable to employes engaged in interstate commerce.

In conclusion, it may be said that at the close of the year 1910 there is a general agreement among those who have considered compensation for industrial accidents that some form of compensation act is now desirable and demanded in this country; that compensation bills prepared by special legislative commissions will be introduced at the 1911 sessions of the legislatures of Massachusetts, New Jersey, Ohio, Wisconsin and Minnesota; that the coöperation of the several state commissions, and the efforts of the Conference of Uniform State Law Commissioners, are preparing the way for uniform state compensation laws in the chief industrial states; and that the constitutional difficulties are no longer regarded as insurmountable, but only as requiring careful investigation of the conditions which are said to justify the law, and careful statement of its provisions.

The study of conditions is also required for the determination of the mooted questions of a fair rate and period of compensation. The progress of the compensation movement in the future will depend upon the extent to which, by scientific study of conditions, the details of the law are intelligently determined with fairness to all parties, and the reasonableness of the law as an exercise of the state's police power is legally established. The drafters of constitutional and effective compensation laws must prepare themselves by careful study of the law and the facts, and they must see that the provisions of the law are couched in language of the utmost precision.

PART II

DISCUSSION OF IMMEDIATE PROBLEMS

The session of Thursday afternoon, December 29, was devoted to the informal discussion of immediate problems under the three general topics, Industrial Hygiene, Working Hours of Women, and Enforcement of Labor Laws. The discussions included brief statements of practical conclusions by more than thirty different persons. Many different States were represented by factory inspectors, physicians, lawyers, manufacturers, and trade unionists.

Unfortunately, in the interest of economy, no stenographic report of this exceedingly interesting meeting is available. A few abstracts, however, have been secured, and are printed below in summary form.

SOCIAL FUNCTION OF PHYSICIANS

The determination of the magnitude of occupational diseases being essential, the question, "Should medical practitioners be required to report industrial diseases to the State Factory Inspector?" was raised by Professor Charles R. Henderson, of Chicago.

Professor Henderson said that in the social conflict with communicable diseases (as scarlet fever, diphtheria, etc.), reports to health authorities are found essential to success. Hidden disease works all the greater damage because it is in the dark. What is brought to light can be fought in the open.

The same is true of occupational diseases: so long as their nature, ravages, and causes are concealed, the medical profession is deprived of information it needs, workmen die in ignorance of what kills them, public sentiment on the subject does not exist, legal regulation is not enacted or not enforced.

It is now generally recognized that the members of the medical profession have a special duty to the community in the matter of reporting diseases and facts for vital statistics. They alone have the information; they have received much of their education at public expense in public or endowed schools, laboratories and hospitals; and they are supported by the public; they are excused from various duties which fall to other citizens.

If they neglect this professional duty misery and death will result.

If they make their reports as perfect as possible, science will be advanced, legislation will be wiser and more effective, and public wealth and happiness will be increased. How many physicians recognize the occupational origin of certain diseases? The investigations of the Illinois Commission on Occupational Diseases have disclosed the unfortunate fact that many physicians do not know the shop origin of certain maladies.

The records of death in the offices of health authorities, coroners, the records of public hospitals, of insurance associations, even when made by medical men yielded but little information as to the working place and its conditions, the essential matter.

Various diseases of the central nervous system, muscular and respiratory systems give very little direct clue to the causes of such disorders.

Perhaps the professors of medical colleges—even with the already crowded curriculum—could help humanity by directing the attention of young medical men to this field. Local medical societies in industrial communities might organize local studies in this interesting field. Hospital authorities, when sick workmen are treated, might well detail a man or men to visit shops out of which men had been brought and trace the symptoms back to their origin in conditions of neglect and danger.

How enforce this duty of Physicians to report occupational diseases?

- (1) By a campaign of education in which the facts already known would be brought to the attention of the medical profession.
- (2) By requiring every physician in attendance upon a sick workman to report the conditions of his illness.
- (3) By the Office of Factory Inspection which might check up all registers of death and see if the physicians in attendance had reported in accordance with the law. A certain number of medical factory inspectors are needed in every state.
- (4) By requiring hospitals to give a history of each case of a sick workman according to the law.
- (5) By checking such records with shop records of illness.

REPORTING OF DISEASES BY EMPLOYERS

The necessity for the fullest possible statistical information was evidently one of the uppermost thoughts in the minds of every one present, and Professor Henderson, on the question: "Should employers and insurance companies be required to keep careful records, and report by causes and occupations all cases of industrial injuries and diseases?" said it is to the interest of workmen, employers and the public that every workman when employed, and at regular intervals afterwards, and on particular occasions, be carefully examined by a physician with reference to entrance into and continuance at a given occupation. Such examination would eliminate those who are specially susceptible to injury in the given occupation, would make it possible to instruct, warn and fortify all engaged in the trade, and would give physicians themselves insight into the conditions which cause or aggravate diseases to which workmen are exposed; and would lead to hygienic devices to prevent injuries.

Physicians who see workmen only at their homes, or at their own offices or in hospitals cannot be in the best position to learn the whole history of the malady they treat.

Reports of shop physicians would be the most valuable and instructive reports of all.

Reports from employers would have little scientific value without prompt, honest and accurate record of every case of illness on a legal form, on which reliable reports can be based.

An illustration may be taken from the German trade regulations or *Gewerbeordnungen* (App. M. 4, 5, pp. 881-897). In lead and chromatic works.

No. 11. "The employer must entrust the examination of the state of health of the chromate workers to an approved physician, whose name must be communicated to the inspector. The physician must examine the workers at least once a month, especially with reference to the existence of ulcers and symptoms of diseases of the nose and throat."

No. 14. "The employer is obliged to keep a sickness-book, or, under his own responsibility, have it kept by one of his foremen. He is responsible for the completeness and correctness of the entries in so far as they are not made by the physician. The sickness-book must contain: (1) the name of the person who keeps the book, (2) the name of the physician who is appointed to supervise the state of health of the workers, (3) the names of workers who have fallen sick, (4) the nature of the disease and occupation which preceded it, (5) the date when the person fell sick, (6) day of recovery, or, if the diseased person did not return to work, the day of dismissal, (7) the date and result of the general medical examinations prescribed in No. 11."

VOLUNTARY EFFORTS OF EMPLOYERS

President F. V. Hamar, of the Hamar Lead Works, East St. Louis, Ill., then took up the subject, giving his practical experience.

I assume, he said, that the purpose of the American Association for Labor Legislation is to determine those occupations that are inherently a menace to the welfare of labor, and, by investigation and conference, to devise such remedies as experience and practice may suggest, and

that you may recommend such legislation as will tend to place the safeguarding of labor under the jurisdiction of State or Federal authorities.

In considering the necessity for supervisory legislation, a consideration of the causes that apparently justify it is also necessary—a consideration of the actual fact that may relate to it, without bias or favor; for I cannot doubt your desire to be as just to the employer as to the employee.

Together with the basic laws of our land—which have largely come from England—we have inherited from that country an abiding prejudice, based on hundreds of years of fact, that white lead making has resulted in the very worst forms of industrial disease.

The belief that English law is on a solid foundation is undoubtedly true, as is also the belief that lead is a poison; but I feel justified in saying that, while the basis of our laws remains unaltered, the application responds to the difference of conditions as they arise. With lead poisoning, however, the old prejudice remains, notwithstanding the fact that new conditions have so far removed the laborer from his original conditions and environment as, partially, at least, to justify a reversal of the belief that the laborer takes his life in his hand when he accepts employment as a white lead maker.

The old European practice of employing women and girls in the dusty departments; the transportation of unfinished dry product from place to place in woven wicker baskets, covering the woman with a shower of dry white lead; the lack of forced draughts and ventilation, and other obsolete conditions, have justified the prejudice toward lead as a deadly menace; but they do not apply in this country, and would not be tolerated in the up-to-date American factories for a day. The preëminence of America in mechanical perfection is particularly justified in white lead factories, and with that mechanical preëminence is an equal advance in sanitation. As proof of this, I want to make a statement of fact, the result of our own experience:

Not one death has resulted from lead poisoning, and our general manager affirms that, to the best of his knowledge, there have not been half a dozen cases of lead poisoning in our smelter at Galena, Kansas, in 10 years.

Regarding our white lead factory at East St. Louis:

1st. The written report from the health office, after a careful examination of the Mortuary Record, fails to disclose a single mortality since 1901, when we began operations.

2nd. Never, so far as we know, have we had a case of "wrist drop."

3rd. Never, so far as we have been able to trace, has there been a case of lead poisoning where the subject has not recovered his normal health.

4th. The number of hours of labor lost—because of lead poisoning—has not been half of the hours lost from purely accidental causes, incident to moving machinery, and other purely industrial causes.

5th. That the general health of our workmen, and their general physical condition, compares favorably with any of the employes of other factories employing unskilled labor in East St. Louis.

What conditions may apply to other industries where labor is subject to lead poisoning, I cannot say; but the basic principle that makes for the well being of our employes is also the basic principle that will work for the well being of all other lead working trades:—cleanliness, ventilation, and prompt attention in the early stages of sickness.

The solution of the problem, how best to conserve the workingman's interests, so far as our industry is concerned, is not by any means a difficult one. It seems rather simple.

Lead is a stomach poison. To keep lead out of the laborer's mouth and nostrils, therefore, is to prevent lead poisoning.

This contemplates:

First. Cleanliness; the provision of ample facilities for washing. But no matter what precautions the employer pro-

vides, the efficacy depends upon the man himself. Second. Ventilation. To provide such properly arranged openings, fans, hoods, etc., as will remove dust from the laborer's vicinity to the greatest possible degree. Third. A supply of readily obtainable and free prophylactics and laxatives, and prompt medical treatment in the early stages of the case.

We believe these three cardinal principles solve the menace to the white lead workers' well being.

REGISTRATION OF OCCUPATIONAL INJURIES BY MANUFACTURERS

The difficulties in relation to the registration of occupational diseases were shown by Mr. Hamar from practical experience. He said:

If all factories employing labor subject to industrial diseases followed the same procedure, and if all physicians were equally experienced in the diagnosis of such troubles, and equally unbiased, the requirement to keep careful record of all cases would be desirable and meet with the hearty endorsement of all employers who are earnestly striving to better the condition of their employes.

On whether or not such an Utopian condition is possible, rests the value of a careful record of reports of injuries.

If, for instance, in one factory the employes know their employers will give them medical and financial attention gratuitously, there are, naturally, a far greater number of cases reported for attention, than in those factories where employes are left to their own resources in case of disability, and those striving for better conditions are heavily penalized.

Again—in one factory where sanitation and a free distribution of prophylactics and medicine is the practice, the number of serious cases is materially less than in another factory, where the welfare of employes is not regarded as essential, and where the employe continues in employment for various reasons, until his case becomes so serious as

to be a menace to the factory record, and he is discharged before the necessity of adding the case to the list of injuries is reached, and no report is demanded. Such a factory would apparently have a smaller number of cases than the former, although the reverse would be true. In some instances, too, employes are not permitted to resume work, having once suffered from a severe case of lead poisoning (because it is an unquestioned fact that some men are more susceptible to inoculation than others), while in other factories the workman may return again and again, the same man reporting as a new case each time.

All these considerations affect the true value of a record, so far as it is intended to register the number of men affected.

Again—what constitutes a case of lead poisoning that justifies a report for your record?

Shall we report a case where a single dose of salts has effected a cure? Shall the malingerer be reported, who takes advantage of our generosity and obtains a day's vacation by falsely reporting the well-known symptoms of lead poison? Or shall we report the case of a laborer who we know has a slight attack and is not incapacitated, but who, for family reasons, must continue his employment temporarily, until he can find other work?

With relation to possible prejudice of physicians, inexperienced in diagnosis of lead poisoning cases, the records and reports would be unjust. We have observed that the statement of the patient that his employment brings him into contact with white lead, almost invariably leads to treatment for lead poisoning. It is not true by any means, and to report such cases would lead to false conclusions.

This of itself is a serious situation, inasmuch as a false diagnosis has resulted in treatment for lead poisoning, when, as a matter of fact, the man was suffering from other serious troubles, in no way induced or related to lead poisoning.

Again, we find in such cases as become serious that a very

large percentage are the result of malpractice by unskilled doctors who live and find employment among the poor and ignorant. One case became so serious that it was reported back to us, and we placed the sufferer under our own physician's charge with entirely satisfactory results.

The extent of painter's colic is also a popular fallacy. It certainly exists. Its causes are certainly known, its remedy is certain, and lies with the man himself. Legislation cannot prevent it, and it is also certain that if the workers in white lead manufactories are reasonably secure, in regard to health and wage-earning capacity, the painter is secure in immeasurably greater proportion. His lead is supplied to him ground in oil, and in that condition he cannot possibly get it into his stomach, excepting through gross carelessness. It is only under exceptional conditions that he comes into contact with lead in its dry form—in sandpapering, or mixing dry lead with other material—both of which latter conditions can be easily and efficiently provided for.

It seems to me that the registration and reporting by employers and insurance companies of occupational diseases would add to the confusion, rather than point out the remedy—that the result would be negative and not positive, and rather an unsatisfactory basis on which to draw satisfactory conclusions, or base proposed legislation. Our company, however, will give such reports gladly if you so desire, and our present physician's reports are subject to your pleasure.

We believe that the causes of lead poisoning are well known. We believe that proper attention to mechanical contrivances, sanitation, prophylactics, and above all, the desire on the part of the workman to take advantage of the facilities offered him for the protection of his health, remove, in a very great degree, if not entirely, the menace to the health and well being of the white lead worker. We are earnestly striving to better conditions, and will be very glad to put into practice any practical suggestions that your Association may recommend.

MEDICAL INSPECTION OF FACTORIES

The source of origin of occupational disease being the factory, workshop, office, mine, and so on, the question arose: "Do we need medical inspection of factories?"

Dr. William C. Hanson, of Boston, Mass., took up the discussion, and said:

For practical purposes, we shall understand factory inspection to include inspections and investigations of conditions affecting the health, safety, or welfare of persons engaged in industrial pursuits. Factory inspection includes a very large amount of work which can properly be designated only by the words "factory hygiene", which, used in the broader sense, includes the hygiene of occupation or the effect of industry upon health; and factory hygiene, in turn, must properly be considered a branch, but not an isolated part, of community hygiene.

Opinions of some of the Massachusetts State Inspectors of Health, who have had nearly four years' practical experience, will be of interest in this connection.

"The examination of the health of minors, and whenever possible, of adults, can only be done by medical inspectors.

"Medical inspection alone can insure progress in factory inspection and save it from mere routine." Dr. Harry Linenthal.

"Any relaxation of medical inspection of workshops and factories would be a step backward." Dr. Lyman A. Jones.

"The primary object, the health of the employee, should ever be kept in view rather than the mere detail of inspection." Dr. Wm. H. Coon.

"Non-medical men, or inexperienced medical men, cannot cope with the many problems arising in connection with the work, or deal successfully with well trained mill men in industrial problems." Dr. Adam S. MacKnight.

"The medical inspector is able to do all that the layman does, and his medical training enables him to do much that is necessary, from which the layman is barred." Dr. Wm. W. Walcott.

"My medical training has been a help to me in that I more fully appreciate the injurious influences on health of poor ventilation, poor light, excessive heat and moisture, poisonous and irritating dusts, gases and fumes." Dr. Lewis Fish.

"Much that I have learned about dangerous trades would never have been found out, or fully understood, without medical teaching. The possibilities of the spreading of infectious diseases by the various trades and customs are more readily seen by the man who knows something about the nature of the organism, and its modes of action." Dr. Charles E. Simpson.

"Three years' medical inspection work in factories have brought to light many grave and faulty hygienic conditions, which have been allowed to exist for years under the non-medical factory inspection system. Hitherto non-recognized conditions of ill-health of minors have been found by medical inspection, as well as non-recognized cases of diseases dangerous to the public health among both minor and adult employees." Dr. Elliott Washburn.

Aside from such work as that which requires special technical knowledge, by far the most important part of factory inspection can be done only by well trained physicians who have some practical knowledge of hygiene and sanitation. While it is obviously true that factory inspection by medical men, exclusively, is neither practicable nor economical, it is equally true that medical men alone are in a position to make the best use of facts obtained concerning the sanitary conditions of the premises where men and women work; to study the possible injurious effects of certain processes upon the health of the person engaged therein; to inspect devices designed to protect the employees against injurious and dangerous substances, and to judge of the effects upon the health of operatives of such substances, as well as to detect pathological signs or symptoms of certain poisons, dusts and fumes incident to some occupations; to inquire as to the health of the employees, both for the purpose of aiding those found in ill-health or physically unfit for work, and for protecting others from infectious diseases; to make physical examination of minors, and, whenever possible, of adults engaged in trades or occupations deemed to be injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene.

CLINIC FOR INDUSTRIAL DISEASES

Realizing how inadequate is our knowledge of industrial hygiene and the many problems incident to it, Dr. C. G. Graham Rogers, of New York, took up the question: "Do we need a special clinic for the study and prevention of industrial diseases?"

Dr. Rogers said that for some time the Department of Labor has enjoyed laboratory facilities in a clinic situated in a congested portion of New York City; there are both afternoon and evening hours, so that workers may avail themselves of gratuitous medical and surgical services. While the Labor Department has had no connection with the work carried on in the clinic, nor secured any statistics from the methods of history-taking in use, the Medical Inspector of Factories has devoted some time to attending personally the various departments.

My personal clinical experience may be tersely summarized as follows:

Do we need a special clinic for the study and prevention of industrial diseases? Yes—because the subject of industrial poisoning or disease is very much neglected.

In the medical schools, very little, or in some cases, no time at all, is given to teaching the subject. In the hospitals and dispensaries, very little, if any attention is given to the question of the worker's occupation as a factor in the cause of the disease, and so entered upon the history sheet. Clinics as a rule have no hours during which the workers may attend, that is, in the evenings.

The attending physicians as a rule have not had any special work relating to industrial diseases or poisonings, and so the histories secured are not as valuable, from a statistical standpoint, as they might be. No special tabulations are made as to the occupation of the workers, and the diseases, so that comparison cannot be made as to the effect of any special industry.

Physical examinations in all cases are not rigid, and as a rule are not repeated with the same thoroughness as the

first. The question of the physical condition of the working child between the ages of fourteen and sixteen is not given any attention; and the physical effects of labor upon females are not given the close attention they should receive.

Clinical examinations through use of laboratory facilities are as a rule neglected.

The general practitioner, not having had the facilities for properly studying industrial diseases or poisonings, and in many instances never having had the subject in his curriculum at the medical school, as a rule gives more heed to the symptoms than to the question of occupation as a cause.

That the medical profession may be able to realize the part occupation may play as a factor in the cause of disease, special clinics should be established, devoted entirely to examination and study of patients engaged in industrial pursuits. Special departments should be established devoted to the physical examination of children between fourteen and sixteen years of age.

With medical inspection of factories, together with reporting of industrial poisonings, a special clinic for the study of industrial diseases, and accurate morbidity and mortality statistics, legislation along hygienic lines could be demanded by the production of accurate statistics.

MERCURIAL POISONING IN NEW YORK AND NEW JERSEY

The Committee of the New York and New Jersey section of the National Civic Federation (Woman's Branch) occupied with "Dangerous and Unhealthy Industries" reported through its chairman Mrs. Josephine Bates that it began its work in the spring of 1910 with Mercury Poisoning. As neither Labor nor Health Bureaus, state or national, had any data, its investigations had to start at elementals. Processes in some fourteen industries were found to be involved, and the summer was spent in studying details of manufacture here, and allied conditions abroad. The "felt hat" trade was the first taken up.

The search for statistics opened with the death entries of Manhattan and Brooklyn, numbering some 50,000 for a single year, each entry of which had to be examined separately since classification was not made by occupation. Next, hospital records were searched where permission could be obtained, which was not always the case. In certain hospitals situated in the heart of the mercury-using district, and whose statistics would have been invaluable, it was found that records were not preserved, and that no entry going further back than ten months was in existence. The data from neighboring hospitals confirmed the fact that many cases must have been entered through years. In still other institutions partial statistics had been kept. A general diagnosis written opposite each name remained in the files, but the detailed disease-histories had been destroyed. In still other hospitals the system of filing the sheets left no means of determining whether or not mercury-poisoning contributed to the disease. Mercury happens to be a toxicant which predisposes to other ailments, such as tuberculosis and kidney trouble. Its slower and subtler effect is merged into the more conspicuous affliction. This makes mercurialism especially hard to trace.

In connection with these hospital entries some forty physicians were interviewed. Most were extremely courteous, interested and helpful; but here again we came upon difficulties, since some, deriving much of their income through the factories, were unwilling to antagonize them by inside revelations. Professional secrecy debarred other physicians from speaking of cases of occupational disease without the patient's consent. As in many instances men upon growing ill from mercurialism leave the trade and move away, the getting of consent was impossible. When located it was exceedingly hard at times to get recital of experiences. The fear of displeasing the "boss", of appearing disaffected to his interest, and so of losing the chance to work—this is the living barrier between these victims of industrial diseases, and those who would, by revealing the conditions, bring about protective legislation.

But beyond and above all these impediments stands the unwillingness of most factories to allow any inspection of health conditions among their employees. The Civic Federation being unofficial, is dependent largely upon the good will and indulgence of employers, and thus far we have not found any overwhelming eagerness on the part of managers to have searchlights thrown upon their sanitary provisions.

The New York State Labor Bureau—through its Commissioner and its Medical Inspector—has been a loyal and valuable ally. It is entirely willing to assist in getting the indispensable data. The Medical Inspector is to undertake for our benefit some air-tests of factories, to determine the percentage of mercury vapor in the atmosphere. From these air-tests we may deduce the degree to which the mercury is getting in its poisoning work.

Every avenue of right and rational approach in this search is seen to be seriously blocked, and our advances have been necessarily slow, toilsome and circuitous. Despite our utmost endeavors to make our mercury investigation thorough and complete, it will be appreciated that it must inevitably remain partial and unsatisfying. The number of cases which we shall succeed in tracing will give a very inadequate gauge of the amount of illness incident to the trades concerned. When, however, we can already show after three months a record more or less full, of sixty cases of mercurial poisoning, the situation begins to have meaning.

In a report which the Chairman prepared upon Mercurial Poisoning in the English Industries (which could be illuminating, since cases of industrial diseases must, by law, be reported in Great Britain both by physicians and factory managers) it was shown that, where as few as from 5 to 10 cases only a year were reported, from 15 to even 25 per cent of the employes were found sometimes suffering from symptoms incident to occupation. Each case reaching a stage to be reported, indicated many cases less pronounced. In 12 years the total number reported

for all Great Britain is only 94. We, in three months, from Brooklyn, Newark and Orange have over 60. The prevalence of mercurialism is, therefore, self-evident.

The Secretary of a hatter's union was asked how many workmen he believed would have advanced to the stage of "shakes" or mercurial tremor. He replied, probably about one percent. The same question was put to the secretary of the local union in the felt hat factory district. He replied *20 per cent* have reached the stage of "shakes". Our Committee has not yet investigated far enough to be able to state which is the nearer right.

In this work, the Committee has enlisted the services of a Special Investigator, Miss Florence Roehm, who has brought to the task experience, a trained mind and discerning judgment.

The first action of mercury poisoning is mental. The subject becomes melancholy, morose and despondent, and among hatters there is a predisposition to suicide. The body first shows symptoms generally in the mouth and the nervous system; the teeth become loosened and blackened, and salivation sets in. The digestive tract and the kidneys are invaded, and soon partial nerve paralysis reveals itself in tremor of arms, hands, feet, facial and speech muscles. This tremor, or "shake", is the distinctive feature of mercurialism. When the hands grow unsteady, the man, however expert, must leave the more delicate processes, for he tears the soft hat-bodies. Often he is docked two dollars for each hat he spoils, and the sums deducted combine with his ever lessening earning capacity rapidly to force him down. The melancholia, and the ever present need for bracing the unsteady nerves, unite to bring about a use of stimulants which only aggravates the disease. Alcoholism is the besetting sin of the hatters' trade. Notwithstanding this, the very worst cases of mercurialism upon our list have no alcohol history.

Many of the hatters, when in health, earn from \$17 to \$22 a week on full time. An interesting clue to the earning

capacity when mercurialism had advanced to the "shake" stage, came through compensation from a Benefit Society to a man whose wage the year round, the Society estimated, averaged \$6 a week.

NATIONAL LEGISLATIVE POWERS

The discussion on Industrial Hygiene was supplemented by a report from Miles M. Dawson, of New York City, who took up the question "To what extent may we hope to secure the elimination of occupational diseases through national legislation?"

Mr. Dawson said that the amount of supervision which the national government may exercise over industries is limited, first, to supervision of interstate commerce, and second, as regards industries engaged in interstate commerce, to supervision only in relation to matters which concern interstate commerce.

This supervision can, of course, reach impurities in the product which will be deleterious to the public health, as has been done through the medium of the pure food law, the vaccine law, etc. It does not in such cases apply to the manufacture of all food products or of all vaccines, for instance, but only to those which are manufactured for interstate commerce; but, since so large a proportion of these products are for interstate commerce, and since the users desire purity in any event, the government certificate becomes so important that in most cases all producers will secure it. Yet the protection is never absolutely complete. It is not easy to see how the supervision could be extended to cover conditions under which a product is manufactured, which do not affect the quality of the product but merely affect the health of the producers. That may be beyond the power of Congress under the interstate commerce provision of the Constitution.

The only powers of Congress under the Constitution which are not subject to reserved rights of the states, and, therefore, held to be subject to strict construction and lim-

ited to the enumerated powers, are those of taxation. These are not subject to the reserve power of the states because the power to tax is not exclusive either in the nation or in the states, excepting only as regards import duties; but the power of the national government to tax is subject to limitations expressed in the Constitution itself as follows:

Indirect taxes must be uniform throughout the United States, and direct taxes must be apportioned among the states according to the population. Taxes can be levied to pay the debts and provide for the common defense and general welfare of the United States.

Under the exercise of this power, the manufacture and sale of oleomargarine, artificially colored to resemble butter, has been discouraged, and under the decisions of the Supreme Court, the purposes of Congress in levying such taxes will not be questioned. That the levy amounts to virtual prohibition has twice been held not to be a constitutional objection; and, of course, import duties for purposes of protection, which have been levied from the commencement of the Government, have also been of this character.

The opinion has been expressed by the President of the United States in his recent message that this is the method by which effectual prohibition of the use of poisonous phosphorus in the manufacture of matches, resulting in that dread and loathsome disease, necrosis of the jaw-bone, can be prevented throughout the country. Its applicability as a preventive of other industrial diseases is to be determined by the circumstances of each particular case.

WOMEN'S WORKING HOURS

Mrs. Florence Kelly discussed the question: "What is the most effective method of coöperation between organizations interested in securing the limitation of the working hours of women?"

Mrs. Kelley pointed out that the limitation of women's working hours is an immediately urgent task with thirty-six legislatures in session this winter, and that the Southern

Conference on Women's and Children's Labor is pledged to introduce bills on this subject in nine southern states.

The state supreme courts having within the year sustained the Illinois and Michigan statutes, thus further confirming the principle of limited working hours, the path is clear for greater gains in 1911 than have ever before been made in one year.

Our efforts now rest upon the firm foundation of favorable judicial decisions of the Supreme Court of the United States, and of the states of Massachusetts, Nebraska, Oregon, Washington, Michigan and Illinois, the Illinois case having reversed in the current year the only adverse decision.

In the most difficult task of all, in saving our legislation, when enacted, from destruction by the courts, the present simple method of coöperation works quite perfectly, whereby, whenever a case is pending as to the constitutionality of a statute, the Consumers' League places at the disposal of the court, in a brief prepared under the direction of Mr. Louis D. Brandeis, the common knowledge of the subject in relation to the public health, and all the organizations interested unite in making public opinion, each in its own way.

No statute has been annulled where this method has been applied. In two years, since January 1908, statutes have been saved which were pending before the courts of the United States, Illinois, Michigan, and Virginia. A case is now pending in Nebraska, and the indications are that the law will be sustained. The point at issue is the employment of women at night, and an alleged insufficiency in the title.

In so vast and difficult a field of action as ours, that of getting forty-one statutes passed and sustained to restrict the working hours of women, the first preliminary to coöperation is a common goal; and the second is a careful distribution of parts. I suggest as our immediate goal the following:

1. A working week of six days; not more than 60 hours, preferably 56, 54 or 48.

2. Abolition of night work.

3. A closing hour set at six P. M. in the textile industries, and not later than ten P. M. in others, following the precedent of Massachusetts.

4. A working day of ten hours, preferably not more than nine or eight.

5. A short working day on Saturday, if provided, should not depend upon longer hours on other working days.

6. Working hours to be posted where the persons named in the notice actually do work, not in remote corners; posted notice to show hours of beginning and of stopping for noon hour; hours of beginning and stopping in the afternoon; presence on premises to constitute prima facie evidence of employment.

7. The words "permitted or suffered to work" are indispensable in addition to "required" in the prohibiting sections.

8. No industries should be exempted in the text of the bill.

9. The title should state that the measure is to promote the public health (or the health of the employes designated) and must contain every subject mentioned in the text. The statute of Nebraska is attacked because its title is defective.

A bill containing these provisions is in preparation by the National Consumers' League, modeled on the general scheme of the Standard Child Labor Bill, i. e., containing all the best provisions now in force in any States. It will be published in January, 1911.

After these essentials of proposed legislation are agreed upon, each organization interested should immediately urge upon all its local organizations and isolated correspondents in states in which legislatures will be sitting (except Michigan which has its newly sustained statute) to get at once into touch with all available local forces and work together for an improved law during 1911.

The following proposed distribution of parts is of course purely tentative:

1. Wherever the trade unions—particularly the Women's

Trade Union League—are strong, they will naturally introduce a bill for the eight hour day, and all organizations interested will rally to its support wherever this is done.

2. Where bills are already pending—as in New York—where the Workingmen's Assembly has long been pushing a bill for the ten hour day and the 54 hour week for women and minors over 16 years of age, like the law now in force in Rhode Island, we are all morally bound to line up behind them. The New York Child Labor Committee and the New York Consumers' League are already doing so.

3. Where trade unions are absent or weak, as in New Hampshire and South Carolina, the other organizations might well try for the adoption of the Oregon Law. In such states we must all unite in educating public opinion in favor of the ten hour day.

4. The National Consumers' League is arranging for the introduction of a model congressional law for the District of Columbia, because, although the number of persons concerned is small, the discussion of congressional bills is nation-wide, and of very great educational value. Although Congress has never used its powers in this direction during the long period when it could legislate for the territories, it may follow up its recent child labor law with a statute regulating, in the District of Columbia, the working hours of women, in line with the decision of United States Supreme Court in the Oregon case.

All the organizations interested will naturally help by enlisting all their local forces to educate their representatives and senators in favor of the proposed District of Columbia bill.

LABOR LAWS AND WORKERS

"To what extent can we rely upon the coöperation of the workers themselves in calling attention to violations of labor laws?" was the question raised by Mr. Edwin R. Wright, member of the Illinois Commission on Employers' Liability. He said:

The best kind of labor laws are those which from their

nature become automatic through intelligent coöperation of the inspection department and the workmen protected. Few employers have the hardihood to withstand the provisions of protective measures when a reasonable assurance is given that the workmen themselves propose to comply with the same.

Factory conditions have improved wonderfully in the Middle West of recent years. Most of our industries have outgrown their former quarters, and when new factory buildings are erected the provisions of protective laws are an important element both in construction and location.

The workman must have something tangible in mind to secure his coöperation. When told that the life of the German workman has been lengthened seven years since the establishment of governmental inspection, he begins to see the practical workings of the laws he has been demanding.

Well paid workmen demand a larger measure of protection than poorly paid employes, and, as the trade unions are composed largely of the higher skilled craftsmen, the agitation for better conditions is persistently carried on in the trade union meetings. Under "good and welfare" of the union the question of coöperation with the authorities for better working conditions is one of the favorite subjects of discussion. Where the industry is conducted on the "day work" basis we find stricter attention paid to sanitation and the guarding of machinery than where the "piece work" system prevails.

The influence of the factory is reflected in the home. A workman usually carries his ideas home with him, and good air in the shop means an open window in the sleeping apartment; proper washing facilities in the factory increases the order for soap at the grocery store.

Where a real attempt is made by the factory inspection department to enforce the laws, there is active coöperation on the part of the workers. Where the department is merely a cog in the political machine, the workers are apathetic.

PART III

REPORT OF WORK 1910

By
JOHN B. ANDREWS, *Secretary*

The year 1910 in the work of this Association is characterized by the removal of the national headquarters from Madison to New York, and by a rapid development of the organization's activities.

INDUSTRIAL ACCIDENTS AND WORKMEN'S COMPENSATION

Since its organization in February 1906 the Association has regarded the prevention of industrial accidents, and the enactment of a just plan of compensation for industrial injuries, as the most pressing immediate problem in labor legislation. Careful studies have been made of accidents, of employers' liability laws, and of court decisions. Every session of the Association has placed great emphasis upon this question and there has been an increasing demand for our publications. With the conviction that careful investigation must precede greater uniformity in scientific legislation, the Association aided in bringing together in an interstate conference the members of the State Commissions on Workmen's Compensation. The third national conference was held in Chicago last June and this Association managed the details of the meetings, and edited and distributed the proceedings as an accommodation to the Conference. The Association hopes to aid in creating a still wider interest in the prevention of accidents, and has encouraged the foundation of State Museums of Safety Devices, particularly in Minnesota and Wisconsin, where a promising beginning has been made. A special "Commission on Workmen's Compensation" was organized at the beginning of this year, and various technical questions involving unwarranted discrimination against unnaturalized aliens have been considered, and

current problems in the campaign for a just system of compensation for injuries received in the course of employment have been referred to the Chairman of this Commission by the Secretary.

WOMAN'S WORK

The Association's special "Commission on Woman's Work" is planning an immediate campaign to secure for women legal maximum working hours. The membership of this Commission includes the principal officers of the various organizations most actively interested in this problem. It is hoped that this Commission may lead to closer coöperation, less duplication, and greater effectiveness and economy of effort.

UNEMPLOYMENT

At the request of the International Conference on Unemployment, our Association represented the United States in the organization of the International Association on Unemployment, which took place in Paris last September, and has collected and forwarded information from time to time. A special "Commission on Unemployment" was organized at the beginning of this year, and the International Conference will probably be invited to meet in the United States in 1913.

INDUSTRIAL HYGIENE AND OCCUPATIONAL DISEASES

Believing that many problems demanding labor legislation are fundamentally problems of health, the Association has placed great emphasis upon occupational diseases. From the time in 1908 when it organized the National Commission on Industrial Hygiene, and shortly afterward in March 1909 published its first leaflet on the subject, the Association has consistently directed attention to this problem. In May the Secretary read a paper on Industrial Diseases and Occupational Standards before the Thirty-seventh National Conference of Charities, in St. Louis. In June our Association called in Chicago the first American Conference on Industrial Diseases, and in July published and distributed the proceedings. As an outgrowth of that Conference the Presi-

dent of the Association appointed a Committee of experts which prepared a memorial on industrial diseases and presented it to the President of the United States on Sept. 29, calling for a national investigation. In November the Secretary published an article urging the foundation of a clinic for industrial diseases, and in December a brief outline of facts and arguments in favor of notification of occupational diseases by medical practitioners. On the latter subject a tentative bill has been prepared and a vigorous campaign is being organized to secure uniform state legislation.

PHOSPHORUS POISONING

The investigation of phosphorus poisoning in the match industry, begun in 1909, was completed early in the present year and published in Bulletin No. 86 by the United States Bureau of Labor. The President of the United States was interested and referred the matter to a Congressional Committee, which printed the report with our arguments for legislation. Our bill for the prohibition of the use of poisonous phosphorus in the manufacture of matches, and to exclude the importation and exportation of such matches, was introduced in Congress by Hon. John J. Esch. President Taft in his recent message urged the adoption of this method of eliminating an unnecessary occupational disease. On Dec. 16, after frequent conferences, a hearing was held before the Ways and Means Committee in Washington. The President, the Secretary, Mr. Miles M. Dawson, and other representatives of our Association, appeared in its behalf. But one person opposed it. There are, however, peculiar complications which make it necessary for the members of our Association to exercise whatever influence they can command on behalf of the early enactment of this legislation in a just form.*

* After months of hard work our Association, on Jan. 6, 1911, induced the Diamond Match Co. to assign its patent for one of the most available substitutes for the poison to three trustees—Prof. Seligman of Columbia University, Attorney Jackson Ralston of the American Federation of Labor, and Commissioner Neill of the U. S. Bureau of Labor. As even this extraordinary step was not sufficient entirely to allay suspicion of monopoly, the owners at the request of the trustees, concurred in by President Taft, *cancelled the patent* on Jan. 28, in order that "phossy jaw" might be abolished.

The first action towards prohibiting poisonous phosphorus in the manufacture of matches in this country was taken by this Association. After long investigation by the Secretary, our National Commission on Industrial Hygiene on Nov. 15, 1909, adopted this resolution:

"Resolved, That this Commission, deploring the evil effects of poisonous phosphorus, and believing that the United States should not lag needlessly behind European countries, unanimously recommends that the manufacture, importation, and sale of matches made with poisonous phosphorus be absolutely prohibited within the United States."

The Secretary's report was published in Bulletin 86 of the U. S. Bureau of Labor, and Hon. John J. Esch, on June 2, 1910, introduced in Congress the Association's Bill. On June 11, 1910, our General Administrative Council adopted this resolution:

"Whereas, Recent investigations in Europe and America indicate that phosphorus poisoning in the match industry can be absolutely eliminated, and that, as a result of long experience, nine of the leading countries of Europe have by legislative act taken the necessary steps to abolish the use of poisonous phosphorus in the manufacture of matches;

"Resolved, That the American Association for Labor Legislation definitely takes upon itself the responsibility and duty of urging this question upon the attention of the President of the United States, the Secretary of the Department of Commerce and Labor, and upon members of Congress, until such time as the workers in American match factories receive the same protection from unnecessary industrial poisoning that is accorded to those who work in similar establishments in the leading countries of Europe."

President Taft was then interested, and in his message to Congress on Dec. 6, 1910, said:

"I invite attention to the very serious injury caused to all those who are engaged in the manufacture of phosphorus matches. The diseases incident to this are frightful, and as matches can be made from other materials entirely innocuous, I believe that the injurious manufacture could be discouraged, and ought to be discouraged, by the imposition of a heavy Federal tax. I recommend the adoption of this method of stamping out a very serious abuse."

ADMINISTRATION OF LABOR LAWS

The Association in all of its work has never lost sight of the fact that the enforcement of the law is the supreme test. Already, a comparative study of the administrative features of the laws of factory inspection has been completed and published. From every industrial state comes the demand for help in developing a more efficient system of law enforcement. Coöperation in this important work has already called for the expenditure of much time in various states, including several days' time by the Secretary and the Assistant Secretary in Boston, at the invitation of the Massachusetts State Commission on Factory Inspection. The coming legislative sessions will be called upon to give us better regulation for the inspection of factories.

EDUCATIONAL BUREAU AND CLEARING HOUSE FOR
INFORMATION

Perhaps the most useful function of the Association has been to serve as a clearing house for information. As one of fifteen national sections of the International Association for Labor Legislation it has exceptional facilities for this work. Numerous requests come to the office each day, from State Commissions, universities, trade unions, manufacturers, legislators and others. It is necessary to have on file complete up-to-date information, all carefully classified. The Association attempts to popularize for wider dissemination through newspapers and magazines trustworthy and vital reports on industrial relations which call for adjustment through legislation. It is believed that this Association through a thoroughly equipped educational bureau could so direct the progress of desirable labor legislation as to save at least ten years, with all that that would mean, in the forward movement of the next quarter of a century. The reasonable equipment of such a bureau would cost not less than \$20,000. a year if conducted independently. But working as an intimate part of the work of this Association equal returns could be secured for \$5,000. a year.

GENERAL ADMINISTRATIVE COUNCIL AND EXECUTIVE
COMMITTEE

On June 11, in Chicago, the General Administrative Council held its spring meeting. Reports were received from various committees, plans were discussed, and resolutions were adopted on Workmen's Compensation, Phosphorus Poisoning, and Industrial Diseases. Various constitutional amendments were considered and referred to special committees.

The Executive Committee has held meetings whenever the occasion has demanded such action.

INTERNATIONAL ASSOCIATION

The International Association for Labor Legislation held its sixth biennial meeting at Lugano, in September. The Congress was attended by 112 delegates from twenty different countries. The U. S. government was represented by the Commissioner of the Bureau of Labor, Dr. Chas. P. Neill, and this Association by its president, its secretary, its assistant secretary, Dr. Lee K. Frankel and Dr. Helen L. Sumner. The preliminary report containing the resolutions passed by the Congress has been published in three languages,—German, French and English.

The International Labor Office, through its special Commissions and trained staff of workers, is doing important work from the results of which we may reap many advantages. It should be remembered, however, that the continuance of this work, in spite of government subventions, draws heavily upon the offices of the national sections, and the time and expense of preparing reports, verifying conclusions, and answering inquiries, must be reckoned with in securing adequate support for the maintenance of our organization.

ANNUAL DUES

The growth of the Association's membership during the year is encouraging. But the minimum fee of \$1. is no

longer sufficient to pay even the expense of printing and distributing the regular publications. This annual meeting should seriously consider whether the time has not come for a considerable increase in the annual dues.

One year ago we rejoiced in the previous year's growth in membership from 271 to 903. The membership now is about 2,000. One year ago our annual report marked an increase in income and expenditures from \$1,134. to \$6,303. The work of the year 1910 has increased this voluntary support to over \$16,000.

During the year 1910, four numbers of the quarterly *Bulletin of the International Labor Office* were distributed to our special Bulletin subscribers, who now number nearly 700. The publications of the year include the report of our Third Annual Meeting under the title "Labor and the Courts," a 140 page compilation of Child Labor Laws, the Proceedings of the First National Conference on Industrial Diseases, the "Annual Review of Labor Legislation," a coöperative report on Industrial Education, and five monthly departments and five special articles in the Survey magazine. The Association has mailed to members and others about 46,000 circulars and letters; and of booklets, announcements and printed enclosures, 90,000. Of our own pamphlet publications including legislative reviews and proceedings of conferences, 19,000. In addition to its own publications, the Association during the year 1910 assisted in distributing to its members and others, 15 reports, pamphlets and articles, to the total number of copies of approximately 9,000. The total number of copies of circulars and pamphlets and articles distributed in both ways during the year 1910, was approximately 164,000.

STATE ASSOCIATIONS

During the present year the State Branches in Illinois, Minnesota and New York, have been strengthened through a very considerable growth in membership, and definite plans have been made for the coming legislative campaigns.

The Minnesota Branch held its annual meeting December 8, reëlected officers, and appointed Don D. Lescohier as Executive Secretary. There has been no session of the Minnesota legislature during the year.

The Illinois branch held its third annual meeting in Chicago on November 26. The Illinois legislature met in special session last spring and, among others, considered two questions which were urged upon the Governor by the State Branch. The first of these resulted in an amendment permitting the Illinois Occupational Diseases Commission to use part of its appropriation for scientific investigation. The second was the preparation of a bill by President Freund of the Illinois Branch, providing for the appointment of a State Commission on Employers' Liability. The Illinois Branch, through its President, also secured the legal assistance of William J. Calhoun in oral support of the Illinois ten hour law for women, which was finally upheld on April 21 by the Supreme Court.

The New York Branch has been remarkably effective in the legislation of the past year. At its third annual meeting and dinner on November 10, more than sixty people were present to draft plans for the continuation of its active work. The work of the Branch has included a careful examination by its Legislative Committee of every labor bill introduced in that State during 1910.

Definite action was taken upon these bills by the Branch whenever it was deemed expedient or likely to prove effective. A general record of such action is here presented, together with the final disposition of each bill.

LEGISLATION

BILLS ACTIVELY SUPPORTED

Wainwright-Phillips Bill, providing Compulsory Workmen's Compensation in certain dangerous employments. *Became law.*

Phillips-Wainwright Bill, providing amendments to employer's liability law with opportunity for employer and em-

ployees voluntarily to contract on basis of compensation. *Became law.*

These bills embodied the recommendations of the New York State Employers' Liability Commission appointed in 1909. The Vice-Chairman and Secretary of this Commission are respectively President and Secretary of the New York Branch. Soon after the Commission had made its report to the Legislature, the Legislative Committee of the New York Branch met and discussed the bills recommended. It was decided to suggest to the Commission two amendments to the bills as introduced, and to send a letter at once to the members of the Branch urging them to support the bills as thus amended. The Commission accepted the more important of these amendments, and the Committee then decided to give active support to the bills. A second letter was sent to the members asking them to write to their representatives and urge their enactment.

After the "voluntary" bill had passed both houses, and the "compulsory" bill had passed the Senate but was in danger of not being reported out of the Assembly Judiciary Committee, a third letter was sent to the members urging them to telegraph at once to some member of the Judiciary Committee, insisting upon the importance of reporting the Compulsory Workmen's Compensation bill. The response of the members to these letters was highly gratifying. The Judiciary Committee at last reported the bill favorably and it passed the Assembly.

Efforts were made by various interests to have these bills vetoed by the Governor, but without success, and they went into effect September 1st, 1910. It may fairly be said that the New York Branch played an important part in securing this legislation.

BILLS ACTIVELY OPPOSED

Boshart Bill, providing that the legal restrictions upon hours of labor and night work for women and children shall not apply to women and children employed in the canneries. *Withdrawn.*

A letter was sent to the Chairman of the Committee on Labor and Industries protesting against the too sweeping exception to the labor law allowed by this bill. Members were also urged to use their influence against it.

Dana Bill, proposing to make the amendment of the Constitution more difficult. *Failed to pass.*

After this bill had passed the Assembly the New York Branch and several other organizations asked for a hearing on it before the Senate Judiciary Committee. Mr. John Martin, Chairman of the Legislative Committee, and the Secretary were among those who appeared against the bill. It was not reported out by the Senate Judiciary Committee.

Davis Bill, providing for proper *ventilation* in factories. *Failed to pass.*

Although thoroughly in sympathy with the general purpose of this bill, the Branch concluded to oppose it for two reasons. First, the Branch was advised by several engineers that the standard of purity provided in the bill was not practical or enforceable. Second, the bill placed upon the owner of the building, the duty of providing sufficient ventilation *with this exception*, "Provided that when the occupier has agreed in writing to comply with the provisions of this section, or an order issued thereunder, within his holding, he, instead of the owner or lessee or their agents, shall be responsible for the performance of the duty herein prescribed." This clause,—making it possible for landlords to contract out of their responsibility, and leaving the factory inspector to deal with the irresponsible small manufacturer who moves often and easily and has no permanent interest in the building,—the Branch concluded was fatal to a real enforcement of the ventilation requirements.

The bill was introduced late in the session, and rather than attempt to have it amended in these two important respects, the Branch decided to oppose it, and to take the matter up in 1911 with a view to passing an adequate bill. Telegrams were sent from the New York Branch to every member of the Labor and Industries Committee, expressing opposition to the bill. It was not reported out by the Assembly Committee on Labor and Industries.

BILLS ENDORSED

Phillips Bill, providing that pure drinking water and adequate dressing rooms shall be furnished in factories. *Became law.*

Phillips Bill, requiring that all grinding, polishing, or buff-

ing wheels shall be equipped with hoods and pipes connected with an exhaust fan of sufficient capacity and power to remove all matter thrown off such wheels in the course of their use. (Old law, limited to machines creating "dust," was practically impossible to enforce.) *Became law.*

BILLS APPROVED FOR RECORD

Phillips Bill, prohibiting the employment of minors under 16 years of age in the operation of drill presses, metal and paper cutting machines, etc. *Became law.*

Lee Bill, amending the labor law in relation to sanitation, providing for the regular cleaning of walls, floors and stairways in factories and the maintenance of a regular supply of clean cuspidors and sanitary receptacles for refuse and waste. *Became law.*

Murray Night Messenger Bill, prohibiting the employment of any person under 21 years of age in cities of the first and second class before 5 A. M., or after 10 P. M., as messenger for a telegraph or messenger company in the distribution, transmission or delivery of goods or messages. *Became law.*

Davis Bill, prohibiting the employment of children between 14 and 16 years of age in bowling alleys and other places of amusement for more than 54 hours a week or between the hours of 7 P. M. and 8 A. M. *Became law.*

Green Bill, providing that no door, window or other opening on any floor of any factory shall be obstructed by stationary metal bars, grating or wire mesh. *Became law.*

Parker Bill, providing for the establishment of a Bureau of Industries and Immigration in the Department of Labor. *Became law.*

Local Committees have been organized in New England, Pennsylvania, Ohio, Michigan, and Missouri. It is expected that these Committees will be organized into State Associations as soon as there is sufficient local interest in the objects of the national Association to warrant such action.

IMMEDIATE LEGISLATIVE PROGRAM

The immediate legislative program of the American Association for Labor Legislation includes five specific matters which will come before the legislatures of the country in 1911.

1. Prohibition of Poisonous Phosphorus in the Manufacture of Matches.
2. Investigation of Industrial Diseases.
3. Reporting of Industrial Accidents and Diseases.
4. Workmen's Compensation for Industrial Injuries; and
5. Enforcement of Labor Laws.

FINANCIAL STATEMENT

The receipts and expenditures of the Association, as shown by the Treasurer's report for the year 1910, are summarized in the following items:

TREASURER'S ANNUAL REPORT

Financial Statement, January 1, 1910, to December 31, 1910.

GENERAL FUND

CASH RECEIVED

Balance, January 1, 1910.....	\$428.05
<i>Received:</i>	
By membership fees.....	3,110.65
By special contributions.....	2,654.00
By refunds for service:	
From Organization Fund (1909 and 1910).....	1,500.00
From New York Branch.....	301.05
From small accounts, express, customs, etc.....	141.24
Sales of literature.....	518.21
For Survey Magazine.....	28.25
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Total received.....	\$8,681.45

CASH PAID OUT

Printing:

Bulletin (I. L. O.).....	\$435.29
Pamphlets	1,495.82
Circulars	402.85
Stationery and office supplies.....	421.05
Postage	855.26
Freight and express.....	173.47

Salaries:

Administrative	1,458.33
Stenographic	1,275.07
Rent	733.37
Telegraph and telephone.....	68.26

Miscellaneous:

Typewriters, office furniture, etc.....	\$500.00	
Dues to International Labor Office (1909 and 1910)	400.00	
Moving expenses.....	125.00	
Other items: books, press clippings, drinking water, etc.....	284.63	
Survey Magazine subscriptions.....	28.25	
	<hr/>	1,337.88
Total paid out.....		\$8,656.65
Balance		24.80
		<hr/>
		\$8,681.45

ORGANIZATION FUND

CASH RECEIVED

Balance, January 1, 1910.....	\$1,480.70
By contribution, April 13.....	3,000.00
By contribution, August 9.....	1,000.00
By contribution, November 30.....	2,000.00
	<hr/>
Total received.....	\$7,480.70

CASH PAID OUT

Salaries:

Administrative	\$2,850.00
Stenographic	80.93
Traveling expenses.....	565.73
Printing circulars, and postage.....	1,777.38
Stationery and office supplies.....	298.90
Transfer to General Fund for clerical services and sundry expenses	1,500.00
	<hr/>
Total paid out.....	\$7,072.94
Balance on hand.....	407.76
	<hr/>
	\$7,480.70

GRAND TOTAL

Received	\$16,162.15
Paid out.....	15,729.59
	<hr/>
Balance on hand, Dec. 31, 1910.....	432.56

V. EVERIT MACY,
Treasurer.

CERTIFICATE OF AUDITING COMMITTEE

We hereby certify that we have examined the Funds, Books, Accounts and Records of the American Association for Labor Legislation, and find that the foregoing report of cash receipts and expenditures and balance on hand is correct.

JOHN MARTIN,
HENRY R. SEAGER,
Auditing Committee.

REPORT ON THE LUGANO AND OTHER INTERNATIONAL MEETINGS

Prof. Farnam gave an informal account of the meetings held during the past summer. He began by saying that he would not attempt a full report of what was done at Lugano. The English edition of the resolutions alone filled fifteen pages, and it was clear that even the reading of these would take more time than was available. He would content himself with trying to give a picture of the meeting as a whole, and simply call attention to a few of the more important resolutions. The following summary of what he said was written down after the meeting, and contains the substantial facts, a few of which were omitted for lack of time in speaking.

INTERNATIONAL ASSOCIATION FOR LABOR LEGISLATION

The sixth biennial meeting of the International Association for Labor Legislation was held in Lugano, Switzerland, September 26 to 28. Switzerland is always chosen very wisely for our place of meeting, since everybody is glad to make a visit to that beautiful country, and since it possesses unusual facilities for and skill in the entertainment of guests.

The meeting was attended by representatives of fifteen sections and twenty countries, the number present being about one hundred and twenty. From the United States we had Commissioner Chas. P. Neill who represented the Federal Government, Dr. L. K. Frankel, Dr. Helen L. Sumner, Dr. and Mrs. John B. Andrews, and the speaker, who represented the American Association. Canada was represented by the Hon. W. L. Mackenzie King, Minister of Labor; England, among others, by Sir Thomas Oliver, the President of the British Section, Miss Sanger, its secretary, Dr. Whitelegge, Chief Factory Inspector, and others. From Germany there came the President of the German Sec-

tion, Frieheer von Berlepsch, Prof. Francke, and several representatives of the departments of factory inspection. From Switzerland we had, among others, Mr. Suchard, head of the large chocolate manufactory; from Norway, Mr. Schlytter, a match manufacturer. In short, from different countries we had representatives of economic science, of the government, of manufacturing and labor interest.

The method of conducting these meetings is strictly practical. Very little time is spent in addresses or in the reading of formal papers. The delegates divide themselves up into a number of different commissions, and each one of these meets separately and discusses the topics assigned to it. Much of the business is prepared beforehand by special reports and studies. The resolutions, when adopted, are then brought into the full meeting, debated, and voted upon. This was the method pursued at the Lugano meeting. The subjects covered by the resolutions, apart from some formal matters, related to the administration of labor laws; child labor; the night work of young persons; the maximum working day; workmen's holidays; home work; industrial poisons; work in compressed air; the protection of railway servants and prevention of accidents; and the equal treatment of foreign workmen in workmen's insurance.

The most important resolutions were those which expressed the desirability of regulating by international treaty the night work of young persons and the working day of women and young persons, just as the night work of women and the using of poisonous phosphorus in the manufacture of matches was regulated in 1906. The most radical resolution was probably the one which advocated the establishment of wage boards like those provided for in the British Act of 1910, as the one really effective remedy for the evils of home work. Besides these, elaborate codes containing regulations of the hygienic conditions in the ceramic industries, in printing works and type foundries and in caisson work, were adopted.

One resolution requests the American Section to continue

its efforts to secure the passage in the several states of suitable laws for insurance against sickness and accident which shall not discriminate against alien workers.

Many of the resolutions provided for the appointment of commissions, and one of our obligations, as a branch of the International Association, is to nominate representatives of the United States to serve on these commissions or to report on assigned topics.

INTERNATIONAL CONFERENCE ON UNEMPLOYMENT

The International Conference on Unemployment was held in Paris September 18 to 22, and our Association undertook some of the preparatory work. The conference was intended to discuss the desirability of forming an international association. Prof. C. R. Henderson was chosen president of the group of Americans who declared in advance their willingness to support and take part in the conference. He was, unfortunately, detained in the United States by the International Prison Congress; but the United States was represented by Commissioner Neill on behalf of the government, and by Dr. L. K. Frankel, Dr. Helen L. Sumner, Prof. E. T. Devine, Dr. and Mrs. Andrews, and the speaker. A large number of interesting papers and reports were presented and read. The practical outcome was the formation of an international association, to be made up of national sections. A provisional general committee was chosen from those present, the expectation being that the international sections, when formed, will permanently fill the places on this committee, under a system of representation roughly proportional to the membership in the several countries. As provisional members from the United States, Prof. Devine, Dr. Frankel, and the speaker were appointed. The committee organized by the election of Senator Léon Bourgeois as president, and of Louis Varlez, of Ghent, as secretary.

The plan of operations is to send circulars to such people in the United States as are believed to be interested, and

when a sufficient number have subscribed to the international association, to effect a formal organization and appoint regular representatives to the international committee.

CONGRESS ON SOCIAL INSURANCE, OCCUPATIONAL DISEASES,
AND HOME WORK

Our secretary, assistant secretary and several other members attended the Congress on Social Insurance which was held at The Hague early in September, and which plans to meet in the United States in 1913. Congresses on home work and industrial hygiene were held in Brussels, and attended by our representatives.

In this connection I may mention that an International Congress of Hygiene and Demography will be held in Washington in 1912. Some of our members took advantage of being in Europe to visit the Hospital for Industrial Diseases in Milan, and the Museums of Safety and Labor Welfare in Munich, Frankfurt, and Berlin. Much advantage may be gained from such visits.

It is to be hoped that when the next meeting of the International Association is held, in 1912, in Zürich, a large number of our members will attend, for the Association welcomes not only the regular delegates, but also other members.

PROGRAM
AND
FOURTH ANNUAL BUSINESS MEETING
AMERICAN ASSOCIATION FOR LABOR
LEGISLATION

December 28 and 29, 1910.

The American Association for Labor Legislation held its fourth annual meeting in St. Louis, December 28 and 29, 1910. The program is reprinted below.

Wednesday, December 28, 8 P. M. Southern Hotel

PRESIDENTIAL ADDRESSES

(Joint session with American Sociological Society and
American Statistical Association)

HENRY W. FARNAM, Yale University, President American Association for Labor Legislation, "Practical Methods in Labor Legislation".

FREDERICK L. HOFFMAN, Prudential Insurance Company, Vice-President American Statistical Association, "Fifty Years of Life Insurance Progress".

FRANKLIN H. GIDDINGS, Columbia University, President American Sociological Society, "The Relation of Social Theory to Public Policy".

Thursday, December 29, 9 A. M. Planters Hotel

MEETING OF GENERAL ADMINISTRATIVE COUNCIL

Thursday, December 29, 10 A. M. Planters Hotel

ANNUAL BUSINESS MEETING

(Followed by a brief meeting of the General Administrative Council)

Report of Work, 1910.....John B. Andrews, Secretary
Financial Report.....V. Everit Macy, Treasurer
Consideration of Proposed Constitutional Amendments, etc.
Election of Officers for the Year 1911

Thursday, December 29, 2 P. M. Planters Hotel
DISCUSSION OF IMMEDIATE PROBLEMS

I. INDUSTRIAL HYGIENE

1. Should the national government investigate industrial diseases?
2. To what extent may we hope to secure the elimination of occupational diseases through national legislation?
3. Should medical practitioners be required to report industrial diseases to the State Factory Inspector?
4. Do we need medical inspection of factories?
5. Do we need a special clinic for the study and prevention of industrial diseases?
6. Should employers and insurance companies be required to keep careful records and report by causes and occupations all cases of industrial injuries?

II. LIMITATION OF THE WORKING HOURS OF WOMEN

What is the most effective method of co-operation between organizations interested in securing the limitation of the working hours of women?

III. ENFORCEMENT OF LABOR LAWS

1. What can be done to secure more efficient systems of factory inspection and better enforcement of labor laws?
2. To what extent can we rely upon the co-operation of the workers themselves in calling attention to violations of the labor laws?
3. Is the establishment of unsalaried State Advisory Boards to co-operate with the Chief Inspector of industrial establishments desirable and practicable?

Among those who led the discussion were: Charles R. Henderson, Alice Hamilton, Ernst Freund, Edwin Wright, of Chicago; William C. Hanson, of Boston; Mrs. Cynthia Kneffler, Mr. Hamar, Mr. Williams, of St. Louis; Frederick L. Hoffman, Hugh Fox, of New Jersey; John Martin, Florence Kelley, John B. Andrews, C. T. Graham Rogers, E. Stagg Whitin, Lawrence Vieller, of New York; Henry W. Farnam, of New Haven; Hal Smith, of Detroit.

Thursday, December 29, 8 P. M. Southern Hotel
INDUSTRIAL ACCIDENTS AND INDUSTRIAL DISEASES
(Joint session with American Economic Association)

ALICE HAMILTON, Medical Investigator Illinois Commission on Occupational Diseases, "Lead Poisoning in Illinois".

SIDNEY I. SCHWAB, Neurologist St. Louis University School of Medicine, "Neurasthenia in Garment Workers".

FREDERICK L. HOFFMAN, Statistician Prudential Insurance Company of America, "Industrial Diseases in America".

DANIEL L. CEASE, Editor Railway Trainmen's Magazine, and Member National Commission on Employers' Liability, "Compulsory Compensation for Injured Workmen".

THOMAS I. PARKINSON, Counsel, Legislation Drafting Association, "Progress of Workmen's Compensation Legislation in the United States".

FERD. C. SCHWEDTMAN, Chairman Committee on Industrial Indemnity Insurance, National Association of Manufacturers, "Voluntary Indemnity for Injured Workmen".

The first session on Wednesday evening, December 28th, was held jointly with the American Statistical Association and the American Sociological Society. Professor Farnam's presidential address on "Practical Methods in Labor Legislation" is printed at the beginning of this report.

The second joint session, which was held with the American Economic Association on Thursday evening, December 29th, was devoted to the discussion of "Industrial Accidents and Industrial Diseases." The six papers and addresses by Alice Hamilton, Sidney I. Schwab, Frederick L. Hoffman, Daniel L. Cease, Thomas I. Parkinson, and Ferd. C. Schwedtmann in addition to the presidential address form the first part of this volume.

ANNUAL BUSINESS MEETING.

The annual business meeting, preceded and followed by short sessions of the General Administrative Council, was held at the Planters Hotel, Thursday forenoon, December 29, with President Henry W. Farnam in the chair. The Report of Work for 1910 was read by the Secretary, John B. Andrews, and upon motion it is printed as a part of this report. A brief account of the International Labor Legislation Congress at Lugano was submitted by Prof. Farnam and upon motion it was ordered printed in this volume.

Upon motion Professor Henry R. Seager and Mr. John

Martin of New York were appointed to audit the financial accounts of the Association for the year 1910.

Upon recommendation of the General Administrative Council the Constitution was amended to increase the maximum number of members of that Council from seventy-five to one hundred; to increase the minimum annual dues from one dollar to three dollars; to abolish the Local Executive Council; and to make verbal and other changes in conformity with the above modifications. The Constitution as revised is printed at the end of this section.

The following resolution, upon motion of Prof. Charles R. Henderson, was unanimously adopted:

"Resolved, That the American Association for Labor Legislation unite with the American Committee of the International Congress on Social Insurance in a petition to the Congress of the United States to invite the International Congress on Social Insurance to meet in this country in 1913."

The following officers were elected for the year 1911:

President, HENRY R. SEAGER.....Columbia University
Secretary, JOHN B. ANDREWS.....New York City
Assistant Secretary, IRENE OSGOOD ANDREWS.....New York City
Treasurer, V. EVERIT MACY.....New York City

VICE-PRESIDENTS

JANE ADDAMS, Chicago.	MORTON D. HULL, Chicago.
LOUIS D. BRANDEIS, Boston.	J. W. JENKS, Ithaca, N. Y.
ROBERT W. DEFOREST, New York.	PAUL M. WARBURG, New York.
RICHARD T. ELY, Madison, Wis- consin.	WOODROW WILSON, Trenton, N. J.
SAMUEL GOMPERS, Washington, D. C.	

In addition to the officers the following members were elected to the General Administrative Council:

THOMAS SEWALL ADAMS, St. Louis.	GEORGE E. BARNETT, Baltimore.
CAROLINE B. ALEXANDER, Hoboken, N. J.	GEORGE L. BARRY, Cincinnati.
MAGNUS W. ALEXANDER, Lynn.	JAMES D. BECK, Madison.
LEO ARNSTEIN, New York City.	SOPHONISBA P. BRECKENRIDGE, Chicago.

JOHN GRAHAM BROOKS, Cambridge.	HAMILTON HOLT, New York City.
DANIEL L. CEASE, Cleveland.	ROBERT HUNTER, Noroton, Conn.
HOWELL CHENEY, S. Manchester, Conn.	FREDERICK N. JUDSON, St. Louis.
E. J. CORNISH, New York City.	FLORENCE KELLEY, New York City.
EDGAR T. DAVIES, Chicago.	OWEN R. LOVEJOY, New York.
MILES M. DAWSON, New York City.	SETH LOW, New York City.
EDWARD T. DEVINE, New York City.	JAMES A. LOWELL, Boston.
MARY DREIER, Brooklyn.	JAMES M. LYNCH, Indianapolis.
CRYSTAL EASTMAN, New York City.	CHARLES MCCARTHY, Madison.
OTTO M. EIDLITZ, New York City.	WILLIAM E. MCEWEN, St. Paul.
ELIZABETH G. EVANS, Boston.	WILLIAM D. MAHON, Detroit.
EDWARD A. FILENE, Boston.	JOHN MARTIN, New York.
BERNARD FLEXNER, Louisville.	ANDREW JACKSON MONTAGUE, Richmond.
LEE K. FRANKEL, New York City.	ANNE MORGAN, New York.
JOHN P. FREY, Cincinnati.	THOMAS M. OSBORNE, Auburn, N. Y.
ANDREW FURUSETH, San Francisco.	SIMON N. PATTEN, Philadelphia.
CHARLES F. GETTEMY, Boston.	PERRY F. POWERS, Cadillac, Mich.
JOSEPHINE GOLDMARK, New York City.	MRS. RAYMOND ROBINS, Chicago.
JOHN H. GRAY, Minneapolis.	JOHN A. RYAN, St. Paul.
E. M. GROSSMAN, St. Louis.	LOUIS B. SCHRAM, Brooklyn.
ALICE HAMILTON, Chicago.	P. TECUMSEH SHERMAN, New York City.
M. B. HAMMOND, Columbus, O.	J. ALLEN SMITH, Seattle.
HENRY J. HARRIS, Washington, D. C.	ETHELBERT STEWART, Chicago.
LEONARD W. HATCH, Albany.	FREDERIC J. STIMSON, Boston.
ROWLAND G. HAZARD, Peace Dale, R. I.	HENRY L. STIMSON, New York City.
CHARLES R. HENDERSON, Chicago.	HELEN L. SUMNER, Washington, D. C.
	JOHN WILLIAMS, Albany.
	ROBERT WOODS, Boston.

MEETING OF THE ADMINISTRATIVE COUNCIL

Immediately after adjournment of the annual meeting the General Administrative Council met in a brief session and transacted the following business:

The Executive Committee was elected as follows:

CHARLES P. NEILL, Washington, D. C.	JOHN R. COMMONS, Madison, Wisconsin.
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SAMUEL McCUNE LINDSAY, New York.	ERNST FREUND, Chicago.
THEODORE MARBURG, Baltimore.	JOHN M. GLENN, New York.
JOHN MITCHELL, New York.	FREDERICK L. HOFFMAN, New-ark, N. J.
HENRY W. FARNAM, New Haven.	The President and the Secretary.

On motion the following new members were elected to the General Administrative Council: E. J. Cornish, New York; and Howell Cheney, South Manchester, Connecticut.

Upon motion three By-Laws were adopted, as printed with the revised Constitution at the end of this section.

A vote of thanks was tendered Harvard University and the University of Minnesota for letters of invitation with reference to the next annual meeting of the Association.

JOHN B. ANDREWS, *Secretary*.

CONSTITUTION

OF THE AMERICAN ASSOCIATION FOR LABOR LEGISLATION

ADOPTED FEB. 15, 1906

Amended Dec. 30, 1907; Dec. 30, 1908; Dec. 29, 1909; Dec. 29, 1910.

ARTICLE I. NAME.

This Society shall be known as the American Association for Labor Legislation.

ARTICLE II. OBJECTS.

The objects of this Association shall be:

1. To serve as the American branch of the International Association for Labor Legislation, the aims of which are stated in the appended Article of its Statutes.
2. To promote uniformity of labor legislation in the United States.
3. To encourage the study of labor conditions in the United States with a view to promoting desirable labor legislation.

ARTICLE III. MEMBERSHIP.

Members of the Association shall be elected by the Executive Committee. Eligible to membership are individuals, societies and institutions that adhere to its objects and pay the necessary subscriptions. The minimum annual fee for individuals shall be three dollars, or five dollars if the member wishes to receive the Bulletin of the International Association. In states in which there is a State Association \$1 of the dues shall be paid over to the State Association. The minimum annual fee for societies and institutions shall be five dollars, and they shall receive one copy of the Bulletin, and for each two-dollar subscription an additional copy.

ARTICLE IV. OFFICERS.

The officers of the Association shall be a president, ten vice-presidents, a secretary and a treasurer. There shall also be a General Administrative Council consisting of the officers and not less than twenty-five or more than one hundred other persons. The General Administrative Council shall have power to fill vacancies in its own ranks and in the list of officers; to appoint an Executive Committee from among its own members, and such other committees

as it shall deem wise; to frame by-laws not inconsistent with this constitution; to choose the delegates of the Association to the Committee of the International Association; to conduct the business and direct the expenditures of the Association. It shall meet at least twice a year. Eight members shall constitute a quorum.

ARTICLE V. LOCAL SECTIONS.

Local Sections of this Association may be constituted in any state upon certification by the secretary and the Executive Committee. They shall, until changed by section seven, be governed by the following by-laws:

SEC. 1. The name of this organization is the [*Name of State*] Association for Labor Legislation.

SEC. 2. Eligible to membership are members of the American Association for Labor Legislation residing in———. Members of the American Association for Labor Legislation become members of this Association by vote of the Executive Committee of this Association.

SEC. 3. The purpose of this Association is to promote the work of the American Association for Labor Legislation in general, also in special relation to the needs of the state of ——.

SEC. 4. The Officers of this Association shall be a president, a vice-president, a secretary, and a treasurer, who, with three or more other members, shall constitute the Executive Committee.

SEC. 5. The Executive Committee shall administer the affairs of the Association and report at annual or called meetings of members of the Association. It shall be the duty of the Executive Committee to arrange programs for discussion of members, to institute and direct investigations, to take measures to increase the membership of the American Association for Labor Legislation, to promote publicity of the policies and recommendations of the American Association for Labor Legislation by publications and meetings.

SEC. 6. An annual meeting of the section for election of officers and for other business shall be held in October or November of each year.

SEC. 7. These by-laws may be amended at any annual or called meeting of the Association, notice of the proposed amendment having been sent to each member at least one month in advance.

ARTICLE VI. MEETINGS.

The Annual meeting and other general meetings of members shall be called by the General Administrative Council and notice thereof shall be sent to members at least three weeks in advance. Societies and institutions shall be represented by two delegates each. The annual meeting shall elect the officers and other members of the General Administrative Council.

Meetings of the General Administrative Council shall be called by the Executive Committee. Notice of such meetings shall be sent to members of the Council at least three weeks in advance.

Amendments to the constitution, after receiving the approval of the General Administrative Council, may be adopted at any general meeting. Fifteen members shall constitute a quorum.

ARTICLE II OF THE STATUTES OF THE INTERNATIONAL ASSOCIATION
DEFINING THE AIMS OF THE ASSOCIATION.

1. To serve as a bond of union to those who, in the different industrial countries believe in the necessity of protective labor legislation.

2. To organize an International Labor Office, the mission of which will be to publish in French, German and English a periodical collection of labor laws in all countries, or to lend its support to a publication of that kind. This collection will contain:

(A) The text or the contents of all laws, regulations and ordinances in force relating to the protection of workingmen in general, and notably to the labor of children and women, to the limitation of the hours of labor of male and adult workingmen, to Sunday rest, to periodic pauses, to the dangerous trades;

(B) An historical exposition relating to these laws and regulations;

(C) The gist of reports and official documents concerning the interpretation and execution of these laws and ordinances.

3. To facilitate the study of labor legislation in different countries, and, in particular, to furnish to the members of the Association information on the laws in force, and on their application in different states.

4. To promote, by the preparation of memoranda or otherwise, the study of the question how an agreement of the different labor codes, and by which methods international statistics of labor may be secured.

5. To call meetings of international congresses of labor legislation.

BY-LAWS

1. *Committees.* The Council shall elect an Executive Committee, as well as Committees on Finance, Legislation, and Publicity, and such other committees as occasion may require.

2. *Powers of the Executive Committee.* The Executive Committee shall exercise, subject to the General Administrative Council, the powers of the Council in the intervals between its sessions.

3. *International Obligations.* The Executive Committee shall choose the members of Committees and Commissions and the reporters required by votes of the International Association.

PART IV
MEMORIAL
ON OCCUPATIONAL DISEASES

*Prepared By A Committee Of Experts
and*

*Presented To The President Of The United States**

TO THE PRESIDENT:

At a meeting of the First National Conference on Industrial Diseases, held at Chicago on June 10, 1910, the following resolution was unanimously adopted:

"RESOLVED, That a special committee of five who shall have power to add to their number, be herewith appointed by the President of the American Association for Labor Legislation to call upon the President of the United States and present to him at an early date a carefully prepared memorial of facts and conclusions, emphasizing the urgent necessity and practical expediency of a national expert inquiry into the whole subject of industrial or occupational diseases; their relative degree of frequency in various trades and occupations, the causes responsible for their occurrence; the methods desirable and practicable for their prevention or diminution, and all other matters having a relation thereto including methods of amelioration and relief."

In accordance with this resolution the undersigned were duly appointed by Prof. Henry W. Farnam, of Yale University, President of the American Association for Labor Legislation, and after due deliberation, we have now the honor to present to you the following statement of facts and conclusions, together with certain specific recommendations, for your consideration and such action as, in your judgment, may be called for.

(1) *Industrial or Occupational Diseases Defined.*—Industrial diseases, for the present purpose, are defined as morbid results of occupational activity traceable to specific causes or labor conditions, and followed by more or less ex-

* September 29, 1910.

tended incapacity for work. In the sense of this brief definition, the whole subject of ill-health in industry is of profound social and economic importance to the nation, since the attainment of the highest degree of industrial efficiency is largely a question of relative freedom from disease, a maximum of physical strength, and a reasonable individual certainty of attaining to old age. It is, however, the decided opinion of experts on industrial diseases that the present state of health in American industry is far from satisfactory, and that the mortality and morbidity rates are excessive in particular trades and groups of industrial workers. It is further held by those who may rightfully express an opinion on the subject, that excessive rates of sickness and mortality in industry are largely in consequence of the want of accurate knowledge of the true causes responsible for industrial ill-health, and of the required practical and rational methods and means by which unsanitary conditions in industry may be materially improved. It, therefore, can not be questioned that there is a definite relation between many important and indispensable industrial pursuits and the state of health of the men, women and children engaged therein, and that for this and many other weighty reasons, the whole subject of industrial diseases, their occurrence, causes and prevention, is a matter of National rather than of State concern.

(2) *Economic Importance of Health in Industry.*—It is a generally accepted principle of modern sanitary science that a large amount of sickness in industry or otherwise is preventable, and that the average duration of life can be materially prolonged by deliberate and rational methods of personal, social and industrial hygiene. The economic importance of this conclusion is emphasized in the fact that the number of men, women and children engaged in gainful occupations in the United States may be conservatively estimated for 1910 at 33,500,000. It requires no argument to prove that even a relatively small amount of preventable sickness among this enormous number of workers for sal-

aries or wages would be of considerable economic significance from a national point of view. The probable amount of possible sickness reduction may be conservatively placed at not less than 25%. In the absence of official sickness statistics for this country, or any part thereof, the actual amount of sickness, whether preventable or not, in industry, or in different groups of occupations, must naturally be a mere matter of scientific conjecture. If, however, the factors of the sickness insurance experience of the German industrial population are applied to the estimated number of persons engaged in gainful occupations in the United States, it is brought out that the probable annual amount of sickness, and its cost in the United States in 1910, would be approximately as follows:

Estimate of Sickness and Its Cost Among Occupied Males and Females in U. S., 1910 (33,500,000).

(a)	Estimated number of <i>cases</i> of sickness, on the German basis of 40% of the number of persons exposed to risk....	13,400,000
(b)	Estimated number of days of sickness on the German basis of 8.5 days per person per annum.....	284,750,000
(c)	Estimated loss in wages at an average of \$1.50 a day for 6/7 of the 284,750,000 days.....	\$366,107,145
(d)	Estimated medical cost of sickness at \$1 a day for 284,750,000 days.....	\$284,750,000
(e)	Estimated economic loss at 50 cents a day for 6/7 of the 284,750,000 days...	\$122,035,715
(f)	Total social and economic cost of sickness per annum.....	\$772,892,860
(g)	Estimated possible economic saving in the health of individual workers on a basis of 25% reduction per annum....	\$193,223,215

(3) *Economic Importance of Sickness Prevention.*—On the theoretical assumption that of the probable amount of sickness among the workers of the nation, one-fourth at least is due to strictly preventable causes, the number of days of sickness per annum can, by deliberate efforts,

be diminished by 71,187,500, and the resulting total economic gain to the nation may be estimated at not less than \$193,223,215 per annum. It may be explained in this connection that the assumption of a net economic loss of 50 cents per working day is quite conservative, for it has been brought out in an investigation that the net economic loss of a day's labor to the employing corporation was not less than \$1.15. It requires further to be considered that the true rate of sickness in this country may possibly be higher than in Germany, with a subsequent longer average case duration. To none of these questions, however, can an accurate answer be made at the present time, nor will this be possible until the whole subject of industrial diseases has been thoroughly inquired into.

(4) *Workmen's Compensation for Industrial Diseases.*—Many employments, by their nature, predispose to ill-health and curtail the duration of life. Certain trade diseases are clearly recognized as such, and miners' asthma, painters' colic, hatters' shakes, potters' asthma, glass-blowers' cataract, etc., are terms in common use and suggestive of a clearly recognized and traceable relation of occupation to disease. In the case of most trades, however, which predispose to ill-health, the pathological results are only observed in a higher morbidity from general diseases, particularly tuberculosis, non-tubercular lung diseases, rheumatism, nervous and digestive diseases, etc. In the so-called "dusty trades," the mortality from tuberculosis is known to be enormously in excess of the normal proportion in recognized healthful employments. The statistical evidence upon this point is the same for European countries as for the United States.

The effective protection of industrial workers against the trade risk of ill-health and curtailed longevity is now recognized as being largely a question of legal and moral employers' and community responsibility. The principle of workmen's compensation for industrial accidents has, therefore, in certain foreign countries been applied to well defined in-

dustrial diseases. The British Workmen's Compensation Act of 1906 properly includes, among other diseases for which compensation is required to be paid, the following: anthrax, as resulting from the handling of infected wool, hair, hides, etc., lead poisoning, mercurial poisoning, phosphorus poisoning, and arsenical poisoning, or their sequelae, as resulting from industrial processes involving the use of these poisons or their preparations or compounds. The British Workmen's Compensation Act of 1906 also includes ankylostomiasis, or miner's anaemia, as an occupational disease of comparatively modern origin. The list of industrial diseases within the meaning of the act is gradually being increased as the direct effects of industrial processes on the health of the workers become more clearly recognized and understood. There has been a natural hesitation on the part of the British Government to extend the act to include fibroid phthisis or industrial lung disease, brass founders' ague, and certain other diseases which are also unquestionably the result of occupation exposure, but their ultimate inclusion within the meaning of the act is only a question of time.

(5) *American Dependence on Foreign Data.*—Practically all the standard works of reference on occupational diseases are by English or continental authorities. There is no modern treatise on the subject by an American authority on industrial hygiene, and the occasional official investigations which have been made into health conditions of particular trades only emphasize the necessity of a more thorough and strictly *scientific inquiry by national authority*. While the Census reports on occupation mortality are of some value, they are quite limited in their practical usefulness. The real requirements are statistics of morbidity and trustworthy information regarding the actual conditions under which American industries are carried on and the relation of such conditions to the longevity and sickness rates of the employes. In England the Friendly Societies, and in Germany, Austria, and other continental nations the govern-

ment insurance institutions, have contributed a large amount of useful and conclusive data, but no corresponding information is at present available for this country for comparative purposes. Foreign statistical and other data on occupational diseases naturally have their inherent limitations on account of more or less essential differences in industrial processes or the conditions and circumstances under which American industries are carried on, and it is, therefore, the conviction of this committee that, for the development of rational principles of governmental or State action in matters of this kind, the whole subject requires to be investigated and reported upon by national authority.

(6) *English Authorities on Occupational Diseases.*—Granting the limitations of foreign data on the subject of industrial diseases, foreign official reports upon industrial processes, and their relation to health and life, furnish most valuable material suggestive of the existence of similar conditions detrimental to health in industry in the United States. Among the English authorities on diseases of occupation, the foremost at the present day is Sir Thomas Oliver, who, in 1902, published a comprehensive compilation of the results of special investigations into dangerous trades, by a large number of qualified authorities. The work includes, among other subjects, observations on dust-producing occupations, electrical generating works, lead and its compounds, china and earthenware manufacture, ganister crushing, steel grinding, poisonous phosphorus matches, dangers in the use of mercury and its salts, the manufacture of copper and brass, india rubber, flour mills, chemical trades, the manufacture of explosives, laundry workers, manufacture of textiles, compressed and stagnant air, diminished atmospheric pressure, effects of concussion of the air, eye diseases and eye accidents, excessive muscular strain, etc. For all of these important trades and health-injurious circumstances in industry we have no corresponding trustworthy information for this country which would enable those who are

required, for official or private reasons, to deal with matters of this kind, to do so with the assurance of an accurate knowledge and a full understanding of the facts.

(7) *English Official Inquiries*.—Elaborate investigations have been made from time to time in England to determine the actual facts of the health and mortality of men, women and children employed in industrial pursuits. Since 1855 a large number of Parliamentary, departmental and other official reports have been published on the actual conditions and circumstances affecting health and longevity in industry. As early as 1855 a report was made to Parliament on Noxious Trades, based almost exclusively upon French investigations. This report, no doubt, suggested the necessity of corresponding original investigations in England, and during the long intervening course of time all the more or less important trades and occupations have been inquired into and reported upon by official authority in their relation to disease frequency and the duration of life. Foremost among the earlier investigations rank the reports of the Medical Officer of the Privy Council, based upon original researches into the sanitary condition of trades, and these reports have deservedly become classics of their kind. In 1875 an elaborate report was made to Parliament by a Royal Commission on Noxious Vapors, which comprehends the whole field of chemical trades, and includes such important industries as alkali manufacture, bleaching powder, cement works, chlorine works, copper works, glass works, gold refining, lead works, muriatic acid manufacture, sulphate of ammonia, sulphuric acid, tar distilling, etc.

For many years also valuable annual reports have been made by H. M. Inspector of Factories and Workshops on the health conditions in particular trades, which are models of their kind, and to which we have nothing to correspond in this country at the present day. During 1896-99 a Special Departmental Committee took evidence on dangerous trades, and a series of brief but particularly valuable reports was subsequently published, including such important industries

as bronzing and lithographic works, paper staining, coloring and enameling, india rubber works, inflammable paints, dry cleaning, aerated waters, electrical generating works, file cutting, galvanized iron works, manufacture of salt, etc. Special official reports have since been made on anthrax as an industrial disease, the match industry, the use of lead in potteries, dock labor, ankylostomiasis, the health of Cornish miners, with special reference to miners' phthisis, the health of employes in flax mills, the health of brass workers, the health of lace workers, deep sea diving, manufacture of tinware, etc. In 1907 a Parliamentary report was made by a Departmental Committee on compensation for industrial diseases, which includes a large mass of verbal evidence, and more than eleven thousand questions. A second report has since been made by this committee, and as a practical result a number of additional industrial diseases have been brought within the meaning and scope of the Workmen's Compensation Act of 1906.

Two reports were made to Parliament by a Departmental Committee in 1902 and 1907 on the ventilation of factories and workshops, including the important question of effective methods of dust removal, which are unquestionably of the greatest practical utility, and most useful contributions to sanitary science. Equally important is a report made to Parliament in 1909 by a Departmental Committee, on humidity and ventilation in weaving sheds, in amplification of earlier and similar reports on the workings of the Cotton-cloth Factories Act of 1889, and still earlier reports on the effect of heavy sizing in cotton weaving upon the health of operatives. In addition to these sources of useful information valuable and trustworthy occupation mortality statistics have been published for England and Wales at decennial intervals for forty years. The reports of the Postmaster-General include annually a valuable discussion, amplified by medical statistics, on the health of the staff, which is a useful contribution to the mortality of indoor workers above the grade of wage-earners in industrial establishments. Quite recently a special report was issued by the Local Govern-

ment Board on the conditions affecting the health of workmen employed in the construction of public works, and an equally important report was issued by Dr. Arthur Newsholme, Medical Officer of the Local Government Board, on "Ferro-Silicon," with special reference to possible dangers arising from its transportation and storage. We have nothing in this country corresponding to this mass of official evidence and trustworthy information on the subject of health in industry derived from official inquiries into the actual conditions under which the occupational activity of the nation is carried on.

(8) *German and Austrian Authorities on Occupational Diseases.*—Equally extensive, if not more so, is the official literature on diseases of occupation in Germany, Austria, and other continental countries. The foremost modern German work on the subject is by Dr. Theodore Weyl, who has brought together a most valuable amount of information contributed by specialists in every branch of industrial hygiene. There are included in this treatise discussions on the diseases of miners and tunnel workers, tinsmiths and chemical workers, petroleum and asphalt industries, rubber manufacture and the use of phosphorus, electrical generating works and electro-plating, persons employed at telephones, on elevators, at street-cleaning, in caisson work, as divers, etc. We have nothing to correspond to these elaborate researches, which are largely based upon official investigations and amplified by a considerable amount of statistical data derived from the German compulsory sickness insurance experience.

Numerous similar official inquiries into occupational diseases have been made in Austria, and particularly regarding trades with exposure to lead, arsenic and other industrial poisons. For a number of years a valuable series of special reports has been published by the Austrian Institute of Industrial Hygiene, to which there are corresponding institutions in Berlin, Munich and Budapest. The practical result of these investigations has been to establish by scientific

methods the actual facts under which industry is carried on in its relation to health and life, and the required methods and means by which industrial diseases can be prevented or reduced to a minimum. The collective evidence on the subject supplies that necessary and trustworthy basis for rational labor and sanitary legislation, which is almost entirely wanting in this country at the present time.

(9) *German Data on Industrial Mortality and Morbidity.*—Recognizing the imperative necessity of qualified statistical research into the field of occupational diseases, the German Imperial Parliament, in 1905, voted a special grant of about \$80,000 toward a complete statistical analysis of the entire sickness and mortality experience of the Leipzig Communal Sick Fund. This investigation, which is the most important and conclusive of its kind, has recently been made public in four elaborate volumes, in which the facts of morbidity and mortality are brought into scientific co-ordination, with special reference to all the important trades and occupations followed by the industrial population of the City of Leipzig and vicinity. We have nothing at present to correspond to this investigation, but it is reasonable to suppose that the experience of workmen's benefit insurance funds, fraternal insurance organizations, and of life and accident insurance companies could be utilized in a national investigation undertaken to determine with scientific accuracy the corresponding facts of industrial mortality and morbidity for the United States.

(10) *Official Inquiries into the Health of Miners.*—Aside from numerous other official reports on the subject of industrial diseases, made by authority of government in other countries, special mention requires to be made of an important investigation into the health of miners in South Africa, and of the exhaustive report of a Royal Commission on the ventilation, sanitation, etc., of mines in Western Australia. Under date of March 2, 1910, a Royal Commission was appointed by the Governor of Western Australia, to inquire into the subject of pulmonary diseases

among miners.* The conclusions resulting from these investigations abroad are fully sustained by private investigations made on a limited scale in this country, and among others, by articles published in medical periodicals by Dr. J. W. Coleman, of Jerome, Arizona, on the pathological conditions to which the miner is particularly liable, and by Dr. William W. Betts, of Salt Lake City, Utah, on Chronic Interstitial Pneumonia, induced by stone dust. There is evidence that serious conditions in this respect prevail in some of the lead and zinc mines of Missouri, and in the deep mines of Utah and Nevada, but no official inquiry has ever been made to determine the facts which require to be known. The latent danger of ankylostomiasis, or miners' anaemia, which is a disease of most disastrous consequences to the health of the mining population when once it gains a foothold, has been inquired into in Belgium, Germany, England, and elsewhere, but the matter has not received official consideration in this country. Ankylostomiasis has recently been found to prevail to a considerable extent in certain mines of Amador County, California. The disease is apparently on the increase. We have practically no definite information what ever regarding the health of coal and metal miners in this country, and current opinions on the subject are largely a matter of conjecture and guesswork.

(II) *American Authorities on Occupational Diseases.*—In marked contrast to the wealth of information regarding diseases of occupation in foreign countries, there is a lamentable paucity of trustworthy data for the United States. One of the earliest contributions to the subject in America was a monograph by Dr. Roger S. Tracy, published in 1879 in Buck's Hygiene and Public Health, but Doctor Tracy's conclusions were largely based upon foreign data and only to a very limited extent the result of special inquiries into actual trade conditions in this country. A few suggestive contributions on the subject of occupational diseases occur in

* The report of the Commission was published under date of Oct 4, 1910.

the annual reports of labor bureaus, and the reports of State factory inspectors, but practically without exception these are of very limited utility since they represent rather the results of superficial inquiries than of scientifically ascertained facts on a comprehensive scale. More valuable in this respect is a series of reports on the relation of trade life to industry, made by the Bureau of Labor of New Jersey between 1889 and 1905, but these investigations were, unfortunately, not amplified by reports upon actual industrial conditions and the scientific determination of the facts of ventilation, air, dust, humidity, temperature, excessive light, etc. In 1895 an important monograph on Diseases of Occupations was contributed by Dr. Lloyd, of Philadelphia, to the Twentieth Century Practice of Medicine, but again the conclusions were largely based upon foreign investigations, and only to a very limited extent upon the ascertained conditions in American industry.

Beginning in 1903, the United States Bureau of Labor, under the direction of Commissioner Charles P. Neill, has given publicity to much valuable information on the subject of industrial hygiene, and among other reports the Bureau has published a monograph on factory sanitation and labor protection, by C. F. W. Doehring, followed in 1908 by a monograph on industrial hygiene, by Dr. George M. Kober. During 1908-09 the Bureau published an extended discussion on the mortality from consumption in dusty trades, by Mr. Frederick L. Hoffman, a member of this committee, and in 1910 the same Bureau issued a report on the dangers of phosphorus poisoning in the match industry, by Dr. John B. Andrews, Secretary of the American Association for Labor Legislation. These contributions have been a stimulating influence to those engaged in research work of this kind,* but on the whole they constitute rather a summary account of

* Among recent reports on industrial diseases in America is the investigation by Dr. Alice Hamilton, of Chicago, into the occurrence of lead poisoning, made in behalf of the Illinois State Commission on Occupational Diseases.

our present knowledge regarding the probable dangers to health in particular trades, than contributions of *new* facts toward the required knowledge and better understanding of the actual conditions in American industry detrimental to health and life at the present day.

The first comprehensive American official investigation into the sanitary conditions of factories and other establishments where persons are employed, was made by the Massachusetts State Board of Health in 1907. As a practical result of this inquiry far-reaching and important reforms have been introduced, including the medical supervision of industries, with particular reference to the employment of children. The investigations made by the Massachusetts State Board of Health, however, are limited in their usefulness, and they are not applicable to the needs of effective social legislation throughout the country. The Massachusetts investigation did not include the scientific analysis of the air in dusty trades, nor the important question of excessive humidity in textile industries, the exposure to extreme heat in steel works and foundries, exposure to lead and other industrial poisons, the effects of compressed air, caisson disease, etc., the effects of eye-strain, and questions of defective methods of ventilation and dust removal, which require to be ascertained by scientific methods of inquiry.

(12) *The Rates of Mortality and Morbidity in American Industry.*—Aside from the paucity of data regarding the sanitary condition of American factories and workshops, there is a lamentable want of trustworthy or conclusive occupation mortality and morbidity statistics for the United States. More or less successful efforts have been made since 1890 to utilize the census mortality statistics, but the data are of very limited application to practical requirements. Some very useful tables are contained in the census mortality report for 1908, which include the essential facts for a selected group of occupations, emphasizing in a striking manner the extraordinary proportionate mortality from tuberculosis in particular trades. It is shown by this report

that at ages 25-34 the proportion of deaths from tuberculosis of the lungs was 49.2% for printers and compositors, 40.5% for glassworkers, 56.9% for hatters, 54.2% for leather workers, 41.1% for marble and stone cutters, and 39.8% for textile operatives. In some of these trades the mortality from respiratory diseases is also decidedly excessive, while in others the mortality from rheumatism, nervous diseases, heart diseases, industrial poisoning, accidents, etc., is considerably above the normal. Mortality statistics, however, inadequately measure the true effects of industry on health and life, and what is required are national morbidity statistics and sickness experience data derived from workmen's sickness insurance associations and other trustworthy sources. The committee are of the opinion that a comprehensive national inquiry into the subject of occupational diseases would bring to light a mass of useful information which is not now available, but is required for a practical solution of the questions and problems under consideration.

(13) *Necessity for a National Inquiry.*—The foregoing facts and conclusions have been most carefully considered by the several members of the committee, who are unanimously of the opinion that a comprehensive national inquiry into the whole subject of occupational diseases is urgently called for. Such an inquiry should include the taking of verbal testimony from employers and employees, amplified by expert investigations into the actual conditions under which occupational activity is carried on in all the principal industries or trades which more or less predispose to ill-health and a death rate above the normal. The inquiry should determine the true mortality rate in particular industries for which the facts can be secured by special research, and also the sickness rate in particular employments, by utilizing as far as practicable the experience data of workmen's sickness insurance funds. The inquiry should concern itself with suitable methods of factory construction, the problem of air pollution in workshops, and the practical application of scientific principles of ventilation and dust removal. The in-

vestigation should in part consider occupations with exposure to the continuous and considerable inhalation of organic, metallic and mineral dusts, and in a similar manner, employments wherein poisonous materials are used or manufactured or in which there is a considerable exposure to noxious vapors, steam, excessive humidity, extreme heat or cold, abnormal air-pressure, etc. Particular attention should be given to the injurious effects of excessive labor, night work, continuous excessive muscular strain, over use of the eyes, and over strain of the ears in occupations like boiler-making, riveting, etc. The effects of an electrically surcharged atmosphere as the result of alternating currents and the occasional or continuous exposure to excessive light rays in modern electro-metallurgy, should be inquired into and reported upon in detail by experts thoroughly familiar with the subjects named.

The technical investigation into actual industrial conditions or processes more or less responsible for ill-health, or resulting in a material curtailment of the duration of life, should proceed with a strict regard to approved methods of modern sanitary and collateral sciences. The evidence to be collected should include a sufficient number of records of actual temperature exposures in trades involving extreme heat, and a similar series of carefully collected records of actual percentages of humidity and temperature variations in cotton and other textile mills at different times of the year. The inquiry into effective methods of factory ventilation should include the determination of the condition of the atmosphere by approved methods of air analysis and the quantitative and qualitative determination of the air, with special reference to the presence of health-injurious dust. The foregoing should, if practicable, be amplified by the physical examination of a sufficient number of persons at work under conditions more or less injurious to health, and made to include the determination of the rate of the pulse, bodily temperature, rate of respiration, blood pressure, etc. A special investigation should be undertaken to determine

the actual sanitary condition of underground miners, with particular reference to the possible danger of ankylostomiasis. In this connection the effect of increasing temperatures underground, and the dangers from dust exposure as the result of rock drilling in quartz mines, should receive attention. Finally, in this connection inquiry should be made into the probable health-injurious effects of continuous inhalation of coal dust, particularly on the young employed as door tenders or trappers in anthracite and bituminous mines.

(14) *National Commission of Inquiry*.—It is the unanimous opinion of the committee that a comprehensive investigation, in conformity to the preceding suggestions, requires the appointment of a national commission of inquiry, acting under the authority of Congress, with ample power, and provided with sufficient funds. To give the commission the required dignity and standing, it is suggested that there should be included in its membership not less than two senators and two representatives, and five experts of the highest national standing in the different departments of science which may be said to comprehend the field of industrial hygiene:

I. *Preventive medicine*, in its relation to labor conditions, should be represented by an expert thoroughly familiar with the social and economic aspects of industrial diseases and the broad field of sanitary and factory legislative protection.

II. *Medical practice* should be represented by a physician of national reputation, thoroughly familiar with the whole subject of the diseases of the respiratory system, tuberculosis, and particularly fibroid phthisis or industrial lung diseases.

III. *Sanitary engineering* should be represented by an expert on ventilation, humidification, and air-conditioning in factories, in its particular relation to the health of the operatives and the effective and economical removal of industrial dust.

IV. *Industrial chemistry* should be represented by an expert familiar with the nature of raw materials, and the chemical and other involved scientific processes applied to the industrial arts.

V. *The science of applied statistics* should be represented by an expert in the tabulation and analysis of statistical material, with special reference to mortality and morbidity in their relation to industrial pursuits.

The committee are of the opinion that the national commission on industrial diseases should have ample power to call for persons and papers, and take oral evidence by means of hearings to be held in the principal centers of industry, after sufficient previous announcement. In addition to the taking of evidence, the commission should appoint specially qualified experts in particular branches of science to ascertain and report upon the actually existing conditions having a definite relation to life and health in industry. The commission should enlist the co-operation of existing agencies or associations for scientific research and social betterment, and it should call upon representative workmen's sickness insurance funds, ordinary and industrial life insurance companies, fraternal insurance societies, etc., willing to contribute the results of their mortality or morbidity experience by occupations, industries, or groups of trades. The commission should co-ordinate the scope of its work to the methods of the Census Office, the Bureau of Labor, the Laboratory of Hygiene of the Marine-Hospital Service, and other departments of the Government, and utilize, as far as practicable, these departments or bureaus in connection with the special expert inquiries into actual industrial conditions which require to be made.

(15) *Probable Expense of a National Commission on Occupational Diseases.*—The committee have advisedly made the foregoing outline of the proposed inquiry as comprehensive as possible to emphasize the broad scope of such an investigation, and the required scientific skill to determine with impartiality and thoroughness the actual facts which are required to be known. The committee are unanimously of the opinion that the importance of the subject emphatically demands the utmost thoroughness, and the use of scientific skill, to give the assurance of complete success. The committee are well aware of the fact that such an investi-

gation as is here proposed will be a matter of considerable expense, but they respectfully submit that the consideration involved is the rational and deliberate improvement of the health and longevity of the large majority of occupied men and women who, by their daily toil, chiefly contribute the sum and substance of what constitutes the nation's wealth. While the committee recognize the urgent necessity for economy in the administration of our Federal Government, they are of the opinion that the expense to be incurred will prove the most profitable investment which the nation could possibly make in furtherance of the policy of the Government to advance the cause of moral, physical and material well-being of the people at large. The committee respectfully again direct attention to the fact that many similar investigations have been made by European governments, but that heretofore no investigation of this kind has been authorized or undertaken by the Government of the United States. The expense of a comprehensive inquiry of this kind, extending over perhaps two or three years, would probably not be less than \$50,000, nor more than \$150,000, according to the plan and scope of the proposed investigation. The power, scope and duties of a national commission on industrial diseases might be made to conform to the provisions of the act of June 18, 1898, creating the Industrial Commission, which included the power to call for persons and papers, examine witnesses under oath, and the duty to report the results of the inquiry to Congress from time to time. The subject being entirely new as a matter of governmental inquiry, and the subject-matter being more or less technical and involved, the commission would require considerable time for preliminary organization and to perfect plans and methods to secure the desired results. The opinion of the committee, however, is that the commission should aim primarily to ascertain and report upon the actual conditions affecting health and longevity in American industry, and to supplement the testimony of witnesses by the results of expert inquiry into the strictly technical and otherwise scientific aspects of the

whole subject of occupational diseases. We respectfully submit, after due consideration, that the proposed inquiry would measurably advance the cause of industrial hygiene and contribute the required facts and conclusions toward a better understanding of the problems of health and longevity and their relation to industry, which require to be dealt with as a national question in a rational, practical and thoroughly effective manner by those qualified to do so.

All of which is respectfully submitted to you for your consideration and such action as may, in your judgment, be called for.

HENRY BAIRD FAVILL, *Chairman.*

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